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 NEWS  1         Web Page for STN Seminar Schedule - N. America
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 NEWS  3  JUL 28  EPFULL enhanced with additional legal status
                  information from the epoline Register
 NEWS  4  JUL 28  IFICDB, IFIPAT, and IFIUDB reloaded with enhancements
 NEWS  5  JUL 28  STN Viewer performance improved
 NEWS  6  AUG 01  INPADOCDB and INPAFAMDB coverage enhanced
 NEWS  7  AUG 13  CA/CAplus enhanced with printed Chemical Abstracts
                  page images from 1967-1998
 NEWS  8  AUG 15  CAOLD to be discontinued on December 31, 2008
 NEWS  9  AUG 15  CAplus currency for Korean patents enhanced
 NEWS 10  AUG 27  CAS definition of basic patents expanded to ensure
                  comprehensive access to substance and sequence
                  information
 NEWS 11  SEP 18  Support for STN Express, Versions 6.01 and earlier,
                  to be discontinued
 NEWS 12  SEP 25  CA/CAplus current-awareness alert options enhanced
                  to accommodate supplemental CAS indexing of
                  exemplified prophetic substances
 NEWS 13  SEP 26  WPIDS, WPINDEX, and WPIX coverage of Chinese and
                  and Korean patents enhanced
 NEWS 14  SEP 29  IFICLS enhanced with new super search field
 NEWS 15  SEP 29  EMBASE and EMBAL enhanced with new search and
                  display fields
 NEWS 16  SEP 30  CAS patent coverage enhanced to include exemplified
                  prophetic substances identified in new Japanese-
                  language patents
 NEWS 17  OCT 07  EPFULL enhanced with full implementation of EPC2000
 NEWS 18  OCT 07  Multiple databases enhanced for more flexible patent
                  number searching
 NEWS 19  OCT 22  Current-awareness alert (SDI) setup and editing
                  enhanced
 NEWS 20  OCT 22  WPIDS, WPINDEX, and WPIX enhanced with Canadian PCT
                  Applications
 NEWS 21  OCT 24  CHEMLIST enhanced with intermediate list of
                  pre-registered REACH substances

 NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
              AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

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FILE COVERS 1907 - 7 Nov 2008  VOL 149 ISS 20
FILE LAST UPDATED: 6 Nov 2008  (20081106/ED)

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=> e caruthers ed/au
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E2             3     CARUTHERS E B/AU
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L1   ANSWER 1 OF 28  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2005:527371  CAPLUS
DN   143:45326
ED   Entered STN:  19 Jun 2005
TI   Multiuse, solid cleaning device and composition
IN   Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie
PA   USA
SO   U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C11D001-00
INCL 510459000
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
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     US 20020132752       A1    20020919   US 2002-144331         20020513
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     MX 2006PA08945        A      20070126    MX 2006-PA8945         20060807
     US 20070184998        A1     20070809    US 2006-597837         20060809
     US 20070232517        A1     20071004    US 2006-535896         20060927
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     WO 2005-US4133        W      20050210
     US 2006-597837        A2     20060809
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                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
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4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05;
4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16;
4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13;
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MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
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	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
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	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to be disposed within a laundry cleaning machine tub and to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of laundry wash and rinse cycles. The cleaning agent includes a gas-releasing component, potassium silicate as a solubility control component to limit the solubility of the cleaning agent, an alkalinity agent as a pH regulator, and a water softener to solvate metal ions in a solution of water. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous covering or bag may be disposed around the solid cleaning agent. Thus, a multiuse laundry cleaning device comprises 42% to 52% by weight sodium perborate monohydrate as the gas-releasing component, 35% to 45% by weight potassium silicate as the solubility control component, 1% to 5% by weight zeolite as the water softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to 3% by weight of a optical brightener, 1 to 5% by weight of a fragrance component; and 0.5 to 3% by weight of an anti-redeposition component.

ST sodium perborate monohydrate potassium silicate zeolite cleaning device; solid cleaning compn sodium hydroxide

IT Detergents
(laundry, solid; multiuse, solid cleaning device and composition)

IT Zeolite-group minerals
Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(water softener; multiuse, solid cleaning device and composition)

IT 1310-73-2, Sodium hydroxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkalinity agent; multiuse, solid cleaning device and composition)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses
10332-33-9, Sodium perborate monohydrate 15630-89-4, Sodium percarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(gas-releasing component; multiuse, solid cleaning device and composition)

IT 1312-76-1, Potassium silicate
RL: TEM (Technical or engineered material use); USES (Uses)
(solubility control component; multiuse, solid cleaning device and composition)

L1 ANSWER 2 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:681376 CAPLUS
DN 141:192284
ED Entered STN: 20 Aug 2004
TI Autonomous cleaning composition and making up the cleaning composition
IN Caruthers, Eddie L.
PA Eco-Safe Technologies, L.L.C., USA
SO U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Pat. Appl. 2002

132,752.
CODEN: USXXCO

DT Patent
LA English
IC ICM D06L001-00
ICS C11D017-00
INCL 510276000; X51-044.5; X51-045.5
CC 46-5 (Surface Active Agents and Detergents)
FAN.CNT 5

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PI	US 20040162227	A1	20040819	US 2004-775264	20040210
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	JP 2007522326	T	20070809	JP 2006-553208	20050210
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CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20040162227	ICM	D06L001-00
	ICS	C11D017-00
	INCL	510276000; X51-044.5; X51-045.5
	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12

		[I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20050130868	IPCI	C11D0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*];

C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]

WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08 [I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A]; C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39 [I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C]; C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
	FTERM	3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A solid cleaning composition is a long-term, solid cartridge made of cleaning agents and a solubility limiting agent for controlling an equilibrium concentration of the composition in a solvent, such as H2O. In use, the cleaning agents are dissolved only to a predetd. concentration needed for a single dose of a cleaning appliance, such as a clothes washing machine. The solid cleaning composition may be cyclically exposed to H2O. Controlled dissoln. of the cleaning composition releases a desired quantity of cleaning agents in each cleaning cycle. The use of K silicate as a solubility controlling compound permits manufacture of the cleaning composition at ambient temps. and pressures. The cleaning

composition may be molded or cast into a desirable shape for controlling
surface area.

ST carbonate cleaning agent laundry washing

IT Cleaning
(effervescent agents, nondetergent; solid cleaning composition based on)

IT Effervescent materials
Laundering
(solid cleaning composition based on)

IT Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(water softener; solid cleaning composition based on effervescent carbonate
or borate cleaning agent)

IT 533-96-0, Sodium sesquicarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(alkalinity agent; solid cleaning composition based on effervescent
carbonate or
borate cleaning agent)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(effervescent cleaner; solid cleaning composition based on effervescent
carbonate or borate cleaning agent)

IT 1312-76-1, Potassium silicate 3313-92-6, Sodium percarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(solubility control agent; solid cleaning composition based on effervescent
carbonate or borate cleaning agent)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Anon; GB 2109398 1983 CAPLUS
(2) Anon; WO 9117232 1991 CAPLUS
(3) Anon; WO 9804672 1998 CAPLUS
(4) Backes; US 5665694 A 1997 CAPLUS
(5) Barford; US 5711920 A 1998 CAPLUS
(6) Bartelme; US 6387864 B1 2002 CAPLUS
(7) Caruthers; US 6178987 B1 2001 CAPLUS
(8) Caruthers; US 6262004 B1 2001 CAPLUS
(9) Caruthers; US 6403551 B1 2002 CAPLUS
(10) Caruthers; US 6689276 B1 2004 CAPLUS
(11) Cook; US 3726304 A 1973
(12) Davies; US 5916866 A 1999 CAPLUS
(13) Denisar; US 5870906 A 1999
(14) Donaghu; US 3640876 A 1972 CAPLUS
(15) Gordon; US 5650017 A 1997 CAPLUS
(16) Grenier; US 5810043 A 1998 CAPLUS
(17) John; US 5316692 A 1994 CAPLUS
(18) Mazzola; US 5443751 A 1995 CAPLUS
(19) Morgenstern; US 3715314 A 1973 CAPLUS
(20) Nelli; US 3772193 A 1973 CAPLUS
(21) Olson; US 6365568 B1 2002 CAPLUS
(22) Partee; US 5962389 A 1999 CAPLUS
(23) Schneider; US 3507624 A 1970
(24) Siragusa; US 5755330 A 1998
(25) Sorensson; US 5338528 A 1994 CAPLUS
(26) Sorensson; US 5344633 A 1994 CAPLUS
(27) Spriggs; US 5873268 A 1999
(28) Urfer; US 5118439 A 1992 CAPLUS
(29) Warwick; US 6063747 A 2000 CAPLUS
(30) Yando; US 5827434 A 1998 CAPLUS
(31) Yurko; US 4397777 A 1983 CAPLUS

L1 ANSWER 3 OF 28 CAPLUS

AN 2001:359871 CAPLUS

DN 134:354853

```
ED   Entered STN:  18 May 2001
TI   Autonomous cleaning gas-releasing compositions, apparatus and system for
     washing laundry
IN   Caruthers, Eddie; Briggs, Eric; Corenflos, James
PA   Eco-Safe, L.L.C., USA
SO   PCT Int. Appl., 41 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  B01F001-00
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
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PI   WO 2001034284        A1    20010517   WO 2000-US30909       20001110
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,
             ZA, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 6178987           B1    20010130   US 1999-437382        19991110
     US 6262004           B1    20010717   US 1999-438067        19991110
     US 6403551           B1    20020611   US 1999-437532        19991110
     AU 2001014818        A     20010606   AU 2001-14818         20001110
PRAI US 1999-437382       A     19991110
     US 1999-437532       A     19991110
     US 1999-438067       A     19991110
     WO 2000-US30909      W     20001110
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 2001034284   ICM    B01F001-00
                 IPCI   B01F0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 US 6178987      IPCI   B01F0001-00 [ICM,7]
                 IPCR   A47L0015-44 [I,C*]; A47L0015-44 [I,A]; B01F0001-00
                        [I,C*]; B01F0001-00 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A];
                        C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00
                        [I,C*]; C11D0011-00 [I,A]; D06F0039-02 [I,C*];
                        D06F0039-02 [I,A]
                 NCL    137/268.000; 068/017.000R; 422/264.000
                 ECLA   A47L015/44C; B01F001/00F2; C11D003/00B10; C11D003/02H;
                        C11D003/10; C11D003/12G; C11D003/12G2F; C11D011/00F;
                        D06F039/02
 US 6262004      IPCI   C11D0017-00 [ICM,7]; C11D0007-12 [ICS,7]; C11D0007-20
                        [ICS,7]; C11D0007-02 [ICS,7,C*]
                 IPCR   B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00
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[I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*];
C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08
[I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A];
C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00
[I,C*]; C11D0011-00 [I,A]

NCL 510/294.000; 510/298.000; 510/440.000; 510/445.000;
510/446.000; 510/507.000; 510/509.000; 510/511.000

ECLA B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08;
C11D003/10; C11D003/12G; C11D003/12G2F; C11D011/00F

US 6403551 IPCI C11D0013-00 [ICM,7]

IPCR B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00
[I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*];
C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08
[I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A];
C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00
[I,C*]; C11D0011-00 [I,A]

NCL 510/459.000; 134/022.190; 510/218.000; 510/219.000;
510/224.000; 510/293.000; 510/352.000; 510/378.000;
510/392.000; 510/428.000; 510/439.000; 510/476.000

ECLA C11D011/00B2A; B01F005/04C18; C11D003/00B10;
C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
C11D011/00F

AU 2001014818 IPCI B01F0001-00 [ICM,7]

IPCR B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
[I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
[I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
[I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
C11D0011-00 [I,A]

AB A solid cleaning solution includes an alkalinity agent and a softener. The alkalinity agent controls the pH of the cleaning composition The basic cleaning solution attacks the acids in dirt and oil. In a first reaction step, a gas-releasing agent reacts with dirt and oil, gas is released. In a cleaning appliance for washing clothing, dirt and oil would be dislodged from clothing in a removal step due to reaction and the sudden release of gas.

ST carbonate cleaning agent laundry washing

IT Effervescent materials
(autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT Cleaning
(effervescent agents, nondetergent; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT Dispensing apparatus
(for autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(water softener; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT 533-96-0, Sodium sesquicarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(alkalinity agent; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(effervescent cleaner; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)

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        (solubility control agent; autonomous cleaning gas-releasing carbonate
        compns. for washing laundry and requiring no rinse cycle)
RE.CNT  1     THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Grenier; US 5810043 A 1998 CAPLUS

L1   ANSWER 4 OF 28  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2001:72455  CAPLUS
DN   134:133435
ED   Entered STN:  31 Jan 2001
TI   Autonomous cleaning mechanism
IN   Caruthers, Eddie Lee, Jr.; Briggs, Eric D.; Corenflos, James A.
PA   Eco-Safe, L.L.C., USA
SO   U.S., 26 pp.
     CODEN: USXXAM
DT   Patent
LA   English
IC   ICM  B01F001-00
INCL 137268000
CC   47-10 (Apparatus and Plant Equipment)
     Section cross-reference(s): 46, 48
FAN.CNT 5
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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PI   US 6178987           B1    20010130    US 1999-437382         19991110
     WO 2001034284        A1    20010517    WO 2000-US30909        20001110
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
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             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     AU 2001014818        A     20010606    AU 2001-14818          20001110
PRAI US 1999-437382       A     19991110
     US 1999-437532       A     19991110
     US 1999-438067       A     19991110
     WO 2000-US30909      W     20001110
CLASS
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 US 6178987      ICM    B01F001-00
                 INCL   137268000
                 IPCI   B01F0001-00 [ICM,7]
                 IPCR   A47L0015-44 [I,C*]; A47L0015-44 [I,A]; B01F0001-00
                        [I,C*]; B01F0001-00 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A];
                        C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00
                        [I,C*]; C11D0011-00 [I,A]; D06F0039-02 [I,C*];
                        D06F0039-02 [I,A]
                 NCL    137/268.000; 068/017.000R; 422/264.000
                 ECLA   A47L015/44C; B01F001/00F2; C11D003/00B10; C11D003/02H;
                        C11D003/10; C11D003/12G; C11D003/12G2F; C11D011/00F;
                        D06F039/02
 WO 2001034284   IPCI   B01F0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
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C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
[I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
C11D0011-00 [I,A]
ECLA B01F001/00F2; B01F005/04C18; C11D003/00B10;
C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
C11D011/00F
AU 2001014818 IPCI B01F0001-00 [ICM,7]
IPCR B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
[I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
[I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
[I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
C11D0011-00 [I,A]

AB An apparatus, method, and composition provide a long-term, solid cartridge made of cleaning agents mixed at an azeotrope with a solubility limiting agent for controlling an equilibrium concentration of the composition in a solvent, e.g., water. In use, the cleaning agents are dissolved only to a predetd. concentration needed for a single dose of a cleaning appliance, such as a clothes washing machine, for example. The apparatus may be configured to cyclically expose the solid cartridge to the solvent. A dosing amount of the solvent dissolves a pre-determined concentration of cleaning agents, controlled by the solubility limiting agent. The apparatus discharges the dose of cleaning agent to a cleaning appliance, and readies itself again by dissolving a dose of cleaning agent from a surface of the solid cartridge into the solvent. An azeotrope of sodium bicarbonate with amorphous silica provides the cleaning agent and solubility control, with addnl. sodium sesquicarbonate for alkalinity control and zeolite for scavenging hard water ions. The putty-like mixture may be cast, cured, and cooled to form a solid, monolithic charge in a desirable shape for controlling surface area.

ST washing machine autonomous cleaning mechanism

IT Cleaning
Detergents
Dispensing apparatus
Solvents
Valves
Washing
(autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT Zeolites (synthetic), uses
RL: NUU (Other use, unclassified); USES (Uses)
(autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT Electric appliances
(washing machines; autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT 7631-86-9, Silica, uses
RL: NUU (Other use, unclassified); USES (Uses)
(amorphous; autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses
RL: NUU (Other use, unclassified); USES (Uses)
(autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Barford; US 5711920 1998 CAPLUS
(2) Cook; US 3726304 1973

(3) Denisar; US 5870906 1999
(4) Grenier; US 5810043 1998 CAPLUS
(5) Nelli; US 3772193 1973 CAPLUS
(6) Schneider; US 3507624 1970
(7) Siragusa; US 5755330 1998
(8) Spriggs; US 5873268 1999
(9) Yando; US 5827434 1998 CAPLUS

L1 ANSWER 5 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:131963 CAPLUS
DN 124:189236
OREF 124:34767a,34770a
ED Entered STN: 05 Mar 1996
TI Liquid toner charging mechanisms
AU Larson, J. R.; Caruthers, E. B.; Gibson, G. A.
CS Joseph C. Wilson Center for Research and Technology, Xerox Corporation, Webster, NY, USA
SO Denshi Shashin Gakkaishi (1995), 34(4), 415-15
CODEN: DSHGDD; ISSN: 0387-916X
PB Denshi Shashin Gakkai
DT Journal
LA English
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB Particles dispersed in a low dielec. fluid often become charged by the addition of a soluble ionic surfactant (charge director) which aggregates into micelles. This particle charging effect is utilized in liquid electrostatic toners for imagewise particle deposition on a charged latent image enabling electrostatic printing. The charge director micelles ionize to form pos. and neg. species which can compete with toner particles of the same sign latent image charge. A model for liquid toner particle charging and charge director ionization based on a series of reversible equilibrium is used to predict liquid toner elec. characteristics which are then compared with exptl. findings.
ST electrostatog liq toner charging mechanism
IT Electrography
(developer toners, liquid; mechanisms for charging of)
IT Electrophotographic developers
(toners, liquid; mechanisms for charging of)

L1 ANSWER 6 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1995:971238 CAPLUS
DN 124:101649
OREF 124:18733a,18736a
ED Entered STN: 08 Dec 1995
TI Liquid toner particle charging and charge director ionization
AU Caruthers, E. B.; Gibson, G. A.; Larson, J. R.; Morrison, I. D.; Viturro, E. R.
CS Xerox Corporation, Webster, NY, USA
SO IS&T's International Congress on Advances in Non-Impact Printing Technologies, 10th, New Orleans, Oct. 30-Nov. 4, 1994 (1994), 210-14
Publisher: IS&T--The Society for Imaging Science and Technology, Springfield, Va.
CODEN: 61WIAD
DT Conference
LA English
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB Current models do not account for the full range of elec. behavior observed in liquid toners. Particle mobilities, measured by both electroacoustic and laser Doppler methods, and conductivities are measured of a com. toner-charge director set and their characteristics are found to reflect a

variety of the seemingly divergent behaviors noted by other workers. It is suggested that these behaviors represent aspects of the same underlying mechanism. The relationship of electrokinetic measurements made by ESA and ELS techniques are also discussed.

ST electrophotog liq toner charging; charge director ionization electrophotog liq toner

IT Electric charge
Electric conductivity and conduction
(liquid toner particle charging and charge director ionization)

IT Alkanes, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(C9-12-iso-, liquid toner particle charging and charge director ionization)

IT Electrophotographic developers
(toners, liquid; liquid toner particle charging and charge director ionization)

L1 ANSWER 7 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1995:971237 CAPLUS

DN 124:101648

OREF 124:18733a,18736a

ED Entered STN: 08 Dec 1995

TI Modeling of liquid toner electrical characteristics

AU Caruthers, E. B.; Gibson, G. A.; Larson, J. R.; Morrison, I. D.

CS Joseph C. Wilson Center Technology, Xerox Corporation, Webster, NY, USA

SO IS&T's International Congress on Advances in Non-Impact Printing Technologies, 10th, New Orleans, Oct. 30-Nov. 4, 1994 (1994), 204-9
Publisher: IS&T--The Society for Imaging Science and Technology, Springfield, Va.
CODEN: 61WIAD

DT Conference

LA English

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB Particles in a hydrocarbon fluid often become charged by addition of an ionic surfactant, known as a charge director, which aggregates into micelles in non-polar fluids. This effect is utilized in liquid electrostatic toners for imagewise particle deposition on a charged latent image enabling electrostatic printing. The charge director micelles ionize to form neg. and pos. species which can compete with toner particles of the same sign for latent image charge. A model for liquid toner particle charging and charge director ionization based on a series of reversible equilibrium is used to predict liquid toner elec. characteristics. Liquid toner particle charge, particle electrophoretic mobility, and dispersion conductivity are quant. calculated as a function of charge director and particle concentration and fluid viscosity. The impact of elec. field on charge director micelle ionization and particle charging is also explored.

ST electrophotog liq toner elec characteristic; charge director ionization electrophotog liq

IT Electric charge
Micelles
(model for liquid toner particle charging and charge director ionization)

IT Surfactants
(ionic, model for liquid toner particle charging and charge director ionization)

IT Electrophotographic developers
(toners, liquid; model for liquid toner particle charging and charge director ionization)

L1 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN   1985:149843 CAPLUS
DN   102:149843
OREF 102:23573a,23576a
ED   Entered STN: 04 May 1985
TI   Cocatalyst effects in ethylene polymerization
AU   Caruthers, Ed
CS   Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA
SO   MMI Press Symposium Series (1983), 4(Transition Met. Catal. Polym.: Alkens Dienes, Pt. B), 751-62
      CODEN: MPSSDC; ISSN: 0195-3966
DT   Journal
LA   English
CC   35-3 (Chemistry of Synthetic High Polymers)
      Section cross-reference(s): 65
AB   Solid-state band theory and MO and modeling gave no evidence of improvement in electronic properties of TiCl3 on the addition of AlCl3 or MgCl2 cocatalysts in C2H4 [74-85-1] polymerization The electronic structure of
      TiCl3 was calculated by replacing a terminal Cl by an alkyl group and coordinating C2H4 at an open Ti valence site. Weakening of the double bond associated with coordination gave a net charge of +0.04 electron on C2H4, since charge transfer out of the bonding π-level exceeded back-donation into the antibonding π* level. The greatest charge occurred in occupation of the π* MO, which jumped to 0.14 as the catalyst began to break the C2H4 double bond.
ST   ethylene polymn cocatalyst effect; catalysis polymn ethylene mechanism; titanium trichloride catalasis MO; aluminum chloride cocatalysis polymn; magnesium chloride cocatalysis polymn
IT   Electron configuration
         (of titanium trichloride, in ethene polymerization, cocatalyst effect on)
IT   Polymerization catalysts
         (titanium trichloride, for ethene, cocatalyst effect on electronic properties of)
IT   Double bond
         (carbon-carbon, of ethene, complexation of, with titanium trichloride in polymerization)
IT   Energy level
         (electronic, of titanium trichloride, in ethene polymerization, cocatalyst effect on)
IT   7705-07-9, uses and miscellaneous
      RL: CAT (Catalyst use); USES (Uses)
         (catalysts, for polymerization of ethene, electronic properties of)
IT   7446-70-0, uses and miscellaneous   7786-30-3, uses and miscellaneous
      RL: CAT (Catalyst use); USES (Uses)
         (catalysts, for polymerization of ethene, titanium chloride electronic properties in presence of)
IT   74-85-1, reactions
      RL: RCT (Reactant); RACT (Reactant or reagent)
         (polymerization of, by titanium trichloride, cocatalyst effect on)

L1   ANSWER 9 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1980:221552 CAPLUS
DN   92:221552
OREF 92:35759a,35762a
ED   Entered STN: 12 May 1984
TI   Extended muffin-tin orbital theory applied to the reaction of carbon monoxide - molecular hydrogen on nickel (001)
AU   Kasowski, R. V.; Caruthers, Ed
CS   Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA
SO   Physical Review B: Condensed Matter and Materials Physics (1980), 21(8),

3200-6
CODEN: PRBMDO; ISSN: 0163-1829
DT Journal
LA English
CC 67-2 (Catalysis and Reaction Kinetics)
Section cross-reference(s): 22, 65
AB The method using energy bands from a linear combination of muffin-tin orbitals was extended so that the unit cell is now divided into muffin-tin and non-muffin-tin regions, instead of atomic Wigner-Seitz cells. The full potential including the nonspherical contribution to the potential is still included throughout the unit cell. The new method is applied to the interaction of CO + H2 on Ni(001) surface. Use of 3-dimensional charge-d. plots shows that CO forms C + CO2 through disproportionation. The Ni(001) surface can break the C-O bond of formaldehyde, but not CO.
ST extended muffin tin orbital theory; carbon monoxide hydrogen reaction theor; nickel catalysis theor
IT Disproportionation catalysts
(nickel, for carbon monoxide, theory of)
IT Dissociation catalysts
(nickel, for formaldehyde, theory of)
IT Catalysts and Catalysis
(nickel, of carbon monoxide reaction with hydrogen, extended muffin tin orbital theory of)
IT Methanation catalysts
(nickel, theory of)
IT Molecular orbital
(EMTO, catalytic reaction description by)
IT 7440-02-0, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysis by, of carbon monoxide reaction with hydrogen, theory of)
IT 50-00-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(dissociation of, theory of nickel catalysis of)
IT 1333-74-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbon monoxide on nickel surface, extended muffin tin orbital theory applied to)
IT 630-08-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydrogen on nickel surface, extended muffin tin orbital theory applied to)

L1 ANSWER 10 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1980:173018 CAPLUS
DN 92:173018
OREF 92:27899a,27902a
ED Entered STN: 12 May 1984
TI Band theory of metallic polyacetylene
AU Kasowski, R. V.; Caruthers, Ed; Hsu, William Y.
CS Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA
SO Physical Review Letters (1980), 44(10), 676-9
CODEN: PRLTAO; ISSN: 0031-9007
DT Journal
LA English
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 65
AB Ab initio extended muffin-tin orbital calcns. are presented for trans-polyacetylene heavily doped with AsF5, AsF6, SbF6, or PF6. For the hexafluoride dopants, AsF6 and SbF6, hybridization of metal s states with polymer π states produces a partly filled metallic band. This provides a band model of metallic conductivity within and between chains consistent with

anisotropic elec. conductivity This model should also apply to other doped conjugated polymers.
ST cond fluoride dopant polyacetylene; band fluoride dopant polyacetylene
IT Electric conductivity and conduction
(of polyacetylene doped with Group VA fluoride, energy band theory of)
IT Energy level, band structure
(of polyacetylene doped with Group VA fluorides, elec. conductivity in relation to)
IT 25067-58-7
RL: USES (Uses)
(energy band structure of Group VA fluoride-doped, conductivity in relation to)
IT 7784-36-3 16919-18-9 17111-95-4 25937-98-8
RL: USES (Uses)
(energy band structure of polyacetylene doped with, conductivity in relation to)

L1 ANSWER 11 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1978:589779 CAPLUS
DN 89:189779
OREF 89:29325a,29328a
ED Entered STN: 12 May 1984
TI Pseudopotential calculations for ultrathin layer heterostructures
AU Caruthers, Ed; Lin-Chung, P. J.
CS Nav. Res. Lab., Washington, DC, USA
SO Journal of Vacuum Science and Technology (1978), 15(4), 1459-64
CODEN: JVSTAL; ISSN: 0022-5355
DT Journal
LA English
CC 76-13 (Electric Phenomena)
AB With mol.-beam epitaxy it is possible to fabricate semiconductor heterostructures of the form (GaAs)m-(Ga1-xAlxAs)n, 1 ≤ m,n≤10, where m and n are the nos. of atomic layers of each kind of material in the alternating semiconductor regions. Energy bands of several of these structures are calculated with new pseudopotentials for Ga, Al, and As. Band discontinuities, localized states, charge ds., and interface charge transfer are found. Densities of states are calculated The results indicate the kinds of expts. which should give the best measure of the disorder at the semiconductor-semiconductor interfaces in these heterostructures.
ST heterojunction pseudopotential energy band; interface state heterojunction; charge density heterojunction interface; localized state heterojunction interface
IT Pseudopotential
(for interface state calcns. on ultrathin aluminum gallium arsenide-gallium arsenide heterostructures)
IT Energy level, band structure
(of ultrathin heterostructures, pseudopotential calcn. of)
IT Energy level, surface
(d. of states, of ultrathin heterostructures, pseudopotential calcn. of)
IT Semiconductor junctions
(hetero-, interface states of ultrathin, pseudopotential calcns. of)
IT Energy level
(localized, of ultrathin heterostructures, pseudopotential calcn. of)
IT Electron configuration
(surface, of ultrathin heterojunctions, pseudopotential calcn. of)
IT 1303-00-0, properties
RL: PRP (Properties)
(interface states of heterojunction of, with aluminum gallium arsenide)
IT 1303-00-0D, solid solns. with aluminum arsenide 22831-42-1D, solid solns. with gallium arsenide

RL: USES (Uses)
(interface states of heterostructure of gallium arsenide with, pseudopotential calcns. for)

L1 ANSWER 12 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1978:197952 CAPLUS
DN 88:197952
OREF 88:31003a,31006a
ED Entered STN: 12 May 1984
TI Pseudopotential calculations for (gallium arsenide)1-(aluminum arsenide)1 and related monolayer heterostructures
AU Caruthers, E.; Lin-Chung, P. J.
CS Nav. Res. Lab., Washington, DC, USA
SO Physical Review B: Solid State (1978), 17(6), 2705-18
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
Section cross-reference(s): 75, 76
AB New atomic pseudopotential form factors were determined for Ga, Al, and As. These
simultaneously fit the energy bands of pure GaAs and AlAs. With these, eigenvalues and eigenvectors of the (GaAs)1-(AlAs)1 monolayer heterostructure were found and the d. of states, the dielec. functions, and the charge d. calculated With the addnl. assumption of the virtual-crystal approximation, the composition dependence of the principal valence-band maximum and conduction-band min. was found for Ga1-xAlxAs, (Ga1-xAlxAs)1-(Al1-xGaxAs)1, and (GaAs)1-(Ga1-xAlxAs). (GaAs)1-(AlAs)1 has electronic properties which are quite distinct from GaAs, AlAs, and Ga0.5Al0.5As. The effects of disorder on the principal band gaps are discussed. The theor. results were compared to past expts. and several new expts. suggested.
ST pseudopotential gallium aluminum arsenide; band structure aluminum gallium arsenide; eigenvalue aluminum gallium arsenide; eigenvector aluminum gallium arsenide; state density aluminum gallium arsenide; dielec function aluminum gallium arsenide; electronic property aluminum gallium arsenide; disorder band gap arsenide
IT Dielectric constant and dispersion
Energy level
Energy level, band structure
(of aluminum arsenide and gallium arsenide heterostructures)
IT Energy level
(d. of states, of aluminum arsenide and gallium arsenide heterostructures)
IT Order
(disorder, in aluminum gallium arsenide heterostructures, band gap in relation to)
IT Pseudopotential
(form factor, of aluminum arsenide and gallium arsenide heterostructures)
IT Energy level, band structure
(gap, of aluminum arsenide and gallium arsenide heterostructures)
IT Semiconductor junctions
(hetero-, aluminum arsenide-gallium arsenide, pseudopotential calcns. of properties of)
IT 1303-00-0, properties
RL: PRP (Properties)
(pseudopotential calcn. for aluminum arsenide heterostructure with)
IT 22831-42-1
RL: PRP (Properties)
(pseudopotential calcn. for gallium arsenide heterostructure with)
IT 1303-00-0D, solid solns. with aluminum arsenide 22831-42-1D, solid

solns. with gallium arsenide
RL: PRP (Properties)
(pseudopotential calcn. for heterostructure of)

L1 ANSWER 13 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1977:477352 CAPLUS
DN 87:77352
OREF 87:12227a,12230a
ED Entered STN: 12 May 1984
TI Electronic structures of gallium arsenide-gallium aluminum arsenide (Ga1-xAlxAs) repeated monolayer heterostructure
AU Caruthers, Ed; Lin-Chung, P. J.
CS Nav. Res. Lab., Washington, DC, USA
SO Physical Review Letters (1977), 38(26), 1543-6
CODEN: PRLTAO; ISSN: 0031-9007
DT Journal
LA English
CC 76-13 (Electric Phenomena)
Section cross-reference(s): 65
AB Pseudopotential calcns. are given of the fundamental band gaps for heterostructures consisting of alternating monolayers of GaAs and Ga1-xAlxAs (0 ≤ x ≤ 1). Significant differences occur between the GaAs-AlAs gaps and those of the Ga0.5Al0.5As random alloy. The imaginary part of the dielec. function was calculated for GaAs-AlAs and appears consistent with the exptl. reported optical-absorption edge.
ST band gap gallium aluminum arsenide; dielec gallium aluminum arsenide
IT Pseudopotential
(for gallium arsenide-gallium aluminum arsenide heterostructures)
IT Dielectric constant and dispersion
(of aluminum gallium arsenide-gallium arsenide heterostructures)
IT Energy level, band structure
(gap, calcn. of, of gallium arsenide-gallium aluminum arsenide heterostructures)
IT Semiconductor junctions
(hetero-, aluminum gallium arsenide-gallium aluminum arsenide, pseudopotential calcn. of band gaps of)
IT 1303-00-0, properties
RL: PRP (Properties)
(energy band gap of heterostructure of, with gallium aluminum arsenide)
IT 1303-00-0D, solid solns. with aluminum arsenide 22831-42-1D, solid solns. with gallium arsenide
RL: PRP (Properties)
(energy band gap of, in heterostructure with gallium arsenide)

L1 ANSWER 14 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1977:22020 CAPLUS
DN 86:22020
OREF 86:3485a,3488a
ED Entered STN: 12 May 1984
TI Energy bands of (110) copper thin films
AU Sohn, K. S.; Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1976), 14(8), 3193-200
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
AB A tight-binding calcn. of the energy bands of a 47-layer (110) Cu thin film was done by using the set of 34 Hamiltonian-matrix-element parameters used previously (S., et al., 1976) in calcns. on a (100) thin film. The bands were calculated at 88 points in the irreducible 1/4 rectangular 2-dimensional Brillouin zone both with and without a surface-parameter

shift. The planar and total ds. of states are presented. The energy bands display a wealth of surface bands whose exact nature is sensitive to surface-parameter shifts.

ST copper film energy band; band structure copper film

IT Energy level, band structure
(of copper thin film, tight-binding calcn. of)

IT 7440-50-8, properties
RL: PRP (Properties)
(energy level band structure of thin film of, tight-binding calcn. of)

L1 ANSWER 15 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1977:22019 CAPLUS

DN 86:22019

OREF 86:3485a,3488a

ED Entered STN: 12 May 1984

TI Energy bands of (111) copper thin films

AU Sohn, K. S.; Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 14(8), 3185-92
CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB A tight-binding calcn. of the energy bands of a 30-layer (111) Cu thin film was done by using the set of 34 Hamiltonian-matrix-element parameters used previously (K. S. S., et al., 1976) in calcns. on a (100) thin film. The bands were calculated at 61 points in the irreducible (1/12) 2-dimensional Brillouin zone (2D BZ) both with and without a surface-parameter shift. The planar and total ds. of states are presented. A free-electron-like surface state was found that lies well above the Fermi energy (EF) independently of the surface-parameter shift. P. O. Gartland and B. J. Slagsvold (1975) inferred from their photoelec. data that this (or perhaps another surface state in the same region of the 2D BZ) lies below EF; their interpretation of the data might be incorrect.

ST copper film energy band; band structure copper film

IT Energy level, band structure
(of copper thin film, tight-binding calcn. of)

IT 7440-50-8, properties
RL: PRP (Properties)
(energyl level band structure of thin film of, tight-binding calcn. of)

L1 ANSWER 16 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:549319 CAPLUS

DN 85:149319

OREF 85:23879a,23882a

ED Entered STN: 12 May 1984

TI Ab initio calculation of the energy bands of (001) iron thin films

AU Caruthers, Ed; Dempsey, D. G.; Kleinman, Leonard

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 14(2), 288-97
CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB Constructing a warped-muffin-tin potential from a superposition of 3d 74s1 atomic charge ds. and the Slater exchange approximation, the energy bands were calculated of a 13-layer (001) paramagnetic Fe thin film using the supplemented orthogonalized-plane-wave method. The bands are compared with a previous parametrized LCAO calcn. Hybridized and unhybridized surface states are discussed and plots of wave functions of each kind are displayed. The planar average of the calculated charge is displayed and the possibility of a large d-electron contribution to the surface Friedel

oscillation is discussed.
ST energy band iron thin film
IT Quantum mechanics
(ab initio calcn. with warped-muffin-tin potential, for energy bands of iron thin films)
IT Energy level, band structure
(of iron thin films, ab initio calcn. of)
IT Potential energy and function
(warped-muffin-tin, in ab initio calcn. of energy bands of iron thin films)
IT 7439-89-6, properties
RL: PRP (Properties)
(energy bands of thin films of, ab initio calcn. of)

L1 ANSWER 17 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1976:549318 CAPLUS
DN 85:149318
OREF 85:23879a,23882a
ED Entered STN: 12 May 1984
TI Energy bands of a (111) iron thin film
AU Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1976), 14(2), 279-87
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
AB A tight-binding calcn. was made of the energy bands of a 40-layer (111) ferromagnetic Fe thin film. The matrix parameters were obtained by fitting a bulk calcn. of Tawil and Callaway with the diagonal matrix elements of the layers near the surface shifted to obtain surface charge neutrality. The energy bands were calculated at 61 points in the irreducible (1/12) 2-dimensional Brillouin zone. The planar and total ds. of states are determined and compared to previous results. The differences between the apparent surface potential on this face of Fe compared to the (100) and (110) faces are examined and discussed. Correlations between the energy-band structure and the planar ds. of states are examined
ST energy band iron thin film
IT Energy level, band structure
(of iron thin films)
IT Quantum mechanics
(tight-binding approximation, in energy band calcn. of iron thin films)
IT 7439-89-6, properties
RL: PRP (Properties)
(energy band of thin films of)

L1 ANSWER 18 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1976:140913 CAPLUS
DN 84:140913
OREF 84:22875a,22878a
ED Entered STN: 12 May 1984
TI Energy bands of (100) copper thin films
AU Sohn, K. S.; Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1976), 13(4), 1515-22
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
AB A tight-binding calcn. is reported for the energy bands of a 33-layer (100) Cu thin film. Thirty-four parameters for the Hamiltonian matrix were obtained by fitting 214 energy levels in the bulk energy bands. The

2-dimensional energy bands were calculated at 576 points in the 2-dimensional Brillouin zone (2DBZ) with and without a surface-parameter shift. The planar and total ds. of states are presented. Results disagree with those of S. J. Gurman and J. B. Pendry (1973) by having surface states over a larger range of energies and by having surface states at the .hivin.M point of the 2DBZ.

ST energy band copper thin film
IT Energy level, band structure
 Energy level, surface
 (of copper thin films)
IT 7440-50-8, properties
 RL: PRP (Properties)
 (energy bands of thin films of)

L1 ANSWER 19 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1976:140912 CAPLUS
DN 84:140912
OREF 84:22875a,22878a
ED Entered STN: 12 May 1984
TI Energy bands of a (110) iron thin film
AU Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1976), 13(4), 1489-97
 CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
 Section cross-reference(s): 77
AB A tight-binding calcn. was performed for the energy bands of a 29-layer (110) ferromagnetic iron thin film. The matrix parameters were obtained by fitting a bulk calcn. with the diagonal surface matrix elements shifted by a constant amount to obtain surface charge neutrality. The energy bands were calculated at 117 points in the irreducible (one fourth) 2-dimensional Brillouin zone. The planar and total ds. of states are also reported and compared to previous results. A discussion of the surface states and energy bands is given and the structure of the energy bands is correlated to structure seen in the planar d. of states and the effects of s-d hybridization.
ST energy band iron thin film; surface energy iron thin film
IT Magnetic substances
 (ferro-, iron thin films, energy bands of)
IT Energy level, band structure
 Energy level, surface
 (of iron thin films)
IT 7439-89-6, properties
 RL: PRP (Properties)
 (energy bands of thin films of)

L1 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1976:50025 CAPLUS
DN 84:50025
OREF 84:8181a,8184a
ED Entered STN: 12 May 1984
TI Energy bands of (100) iron thin films
AU Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1975), 12(8), 2932-42
 CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
AB A tight-binding calcn. was done on the energy bands of a (41-layer)-thick

ferromagnetic (100) Fe film. The 23 matrix-element parameters (for each spin) were obtained by fitting the bulk energy bands, calculated by R. A. Tawil and J. Calloway (1973), at a large number of points. The diagonal matrix-element parameters for the surface layers were then shifted by a constant amount to make the surface charge neutral. The energy bands were calculated at 256 points in the 2-dimensional Brillouin zone (BZ) and the planar and total ds. of states calculated A detailed discussion is given of the surface states and resonances throughout the 2-dimensional BZ.
ST ferromagnetic iron film energy band; surface state iron film
IT Energy level, band structure
Energy level, surface
(of iron ferromagnetic film, tight-binding calcn. of)
IT 7439-89-6, properties
RL: PRP (Properties)
(energy level band structure of ferromagnetic film of, tight-binding calcn. of)

L1 ANSWER 21 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1975:583758 CAPLUS
DN 83:183758
OREF 83:28822h,28823a
ED Entered STN: 12 May 1984
TI Effects of different potentials on iron surface states
AU Caruthers, Ed; Kleinman, Leonard
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review Letters (1975), 35(11), 738-40
CODEN: PRLTAO; ISSN: 0031-9007
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
AB First-principles calcns. are reported of surface states at the center (.hivin.Γ) for a (001) Fe thin film. Four different potentials were investigated. The existence and symmetry of surface states depends crucially on details of the potential. For the potential which is most phys. a surface state is found which peaks more than one-half layer outside the last plane of atoms.
ST iron surface state potential; energy level iron surface
IT Energy level, surface
(of iron films, effect of different potentials on)
IT Potential energy and function
(surface energy levels of iron in relation to)
IT 7439-89-6, properties
RL: PRP (Properties)
(surface energy levels of, effect of different potentials on)

L1 ANSWER 22 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1975:21979 CAPLUS
DN 82:21979
OREF 82:3467a,3470a
ED Entered STN: 12 May 1984
TI Projected surface energy bands of body centered cubic iron
AU Caruthers, Ed; Kleinman, Leonard
CS Dep. Phys., Univ. TExas, Austin, TX, USA
SO Physical Review B: Solid State (1974), 10(2), 376-81
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
AB The 3-dimensional energy bands given by J. H. Wood (1962) for paramagnetic Fe were projected to obtain band gaps in the 2-dimensional energy bands for the (001) and (110) surfaces of paramagnetic Fe. Extensive band gaps show the possibility that many surface states exist. The most important

surface states probably exist well away from the center of the
2-dimensional Brillouin zone, and might explain the existence of
magnetically dead layers at surfaces of Fe and Ni.
ST paramagnetic iron surface state; iron surface energy band
IT Energy level, band structure
Energy level, surface
(of paramagnetic iron)
IT 7439-89-6, properties
RL: PRP (Properties)
(surface energy bands of paramagnetic body centered cubic)

L1 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1974:559079 CAPLUS
DN 81:159079
OREF 81:24579a,24582a
ED Entered STN: 12 May 1984
TI Effects of the potential on surface states
AU Caruthers, Ed; Kleinman, Leonard; Alldredge, Gerald P.
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1974), 10(4), 1252-4
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
Section cross-reference(s): 66
AB Surface states are calculated for high-symmetry points in the Brillouin zone
of a (001) Al film by using a pure overlap potential and a Cambridge
potential. Results are compared with those of previous calcns. to see how
surface states are affected by the differences in potential. Behavior of
the potential over the last few occupied layers is more important than the
way the potential goes to zero outside the jellium edge. The range of
validity of the Cambridge model of the potential is discussed.
ST surface energy level calcn potential; aluminum surface energy level
potential
IT Brillouin zone
(of aluminum, potential energy and surface energy levels in relation
to)
IT Energy level, surface
(potential energy in relation to calcn. of)
IT Potential energy and function
(surface energy level calcn. in relation to)
IT 7429-90-5, properties
RL: PRP (Properties)
(surface energy levels of films of, Brillouin zone and potential energy
in relation to)

L1 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1974:441606 CAPLUS
DN 81:41606
OREF 81:6625a,6628a
ED Entered STN: 12 May 1984
TI Electronic surface states on (111) aluminum
AU Caruthers, Ed; Kleinman, Leonard; Aldredge, Gerald P.
CS Dep. Phys., Univ. Texas, Austin, TX, USA
SO Physical Review B: Solid State (1974), 9(8), 3330-6
CODEN: PLRBAQ; ISSN: 0556-2805
DT Journal
LA English
CC 65-2 (General Physical Chemistry)
Section cross-reference(s): 71, 73
AB The projection was calculated of the 3-dimensional energy bands of Al onto the
2-dimensional Brillouin zone (BZ) of the (111) crystallog. face. By using

a pseudopotential constructed with the previously described method (C., et al., 1973-74), the eigenvlues and eigenfuctions were calculated at high-symmetry points of the 2-dimensional BZ for (111) thin films. Unlike D. S. Boudreaux (1971) who found surface states only in the gap around the symmetry point Γ-, surface states were found that exists in all energy gaps of the projected bands at the Γ-, M.hivin., and K.hivin. symmetry points of the 2-dimensional BZ. Surface states probably always exist in the projected energy gaps of low-index surfaces of simple metals. A surface eigenfunction was found that decays inwardly from 1 surface toward the other; heretofore, all surface states found decay inwardly from both surfaces toward the center of the film.

ST electronic surface state aluminum; Brillouin zone surface aluminum

IT Brillouin zone
(electronic surface types of aluminum in relation to)

IT Wave function
(for electronic surface types of aluminum, Brillouin zone in relation to)

IT Energy level, surface
(of aluminum, Brillouin zone in relation to)

IT 7429-90-5, properties
RL: PRP (Properties)
(electronic surface states on (111))

L1 ANSWER 25 OF 28 CAPLUS

AN 1974:441605 CAPLUS

DN 81:41605

OREF 81:6625a,6628a

ED Entered STN: 12 May 1984

TI Electronic surface states on (110) aluminum

AU Caruthers, Ed; Kleinman, Leonard; Aldredge, Gerald P.

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1974), 9(8), 3325-9
CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)
Section cross-reference(s): 71, 73

AB The projection was calculated of the 3-dimensional energy bands of Al onto the 2-dimensional Brillouin zone (BZ) of the (110) crystallog. face. By using a pseudopotential constructed with the previously described method (C., et al., 1973), the eigenvalues and eigenfunctions were calculated at high-symmetry points of the 2-dimensional BZ for (110) thin films. Contrary to the results of D. S. Boudreaux (1971) who found no (110) surface states, surface states were found that exist in the energy gaps of the projected bands at all high-symmetry points (Γ.hivin., Y.hivin., S.hivin., and X.hivin.) of the 2-dimensional BZ.

ST electronic surface state aluminum; Brillouin zone surface aluminum

IT Brillouin zone
(electronic surface states of aluminum in relation to)

IT Wave function
(for electronic surface types of aluminum, Brillouin zone in relation to)

IT Energy level, surface
(of aluminum, Brillouin zone in relation to)

IT 7429-90-5, properties
RL: PRP (Properties)
(electronic surface states on (110))

L1 ANSWER 26 OF 28 CAPLUS

AN 1974:64586 CAPLUS

DN 80:64586

OREF 80:10435a,10438a

ED   Entered STN: 12 May 1984
TI   Energy bands for the (001) surface of aluminum
AU   Caruthers, Ed; Kleinman, Leonard; Alldredge, Gerald P.
CS   Dep. Phys., Univ. Texas, Austin, TX, USA
SO   Physical Review B: Solid State (1973), 8(10), 4570-7
     CODEN: PLRBAQ; ISSN: 0556-2805
DT   Journal
LA   English
CC   70-4 (Crystallization and Crystal Structure)
     Section cross-reference(s): 65
AB   An energy-band calcn. was performed on a 13-layer film of (001) Al.
     Surface states are found at Γ.hivin., M.hivin., and X.hivin.
     in the 2-dimensional Brillouin zone, and along the lines connecting these
     points. Wave functions are plotted and decay consts. tabulated for some
     of these surface states. The charge d. in the [001] direction has also
     been plotted for various positions in the planar unit cell, and for an average
     over the unit cell. Finally, the 13-layer energy bands are compared to a
     (001) projection of the 3-dimensional energy bands, and effects of film
     thickness as well as the surface perturbation are shown.
ST   surface energy band aluminum
IT   Energy level, surface
        (of aluminum films, effect of thickness of)
IT   7429-90-5, properties
     RL: PRP (Properties)
        (surface states of films of, effect of thickness of)

L1   ANSWER 27 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1973:436323 CAPLUS
DN   79:36323
OREF 79:5879a,5882a
ED   Entered STN: 12 May 1984
TI   Energy bands of semiconducting vanadium dioxide
AU   Caruthers, Ed; Kleinman, Leonard
CS   Dep. Phys., Univ. Texas, Austin, TX, USA
SO   Physical Review B: Solid State (1973), 7(8), 3760-6
     CODEN: PLRBAQ; ISSN: 0556-2805
DT   Journal
LA   English
CC   71-13 (Electric Phenomena)
AB   For T > Tt .simeq.68°, VO2 is a metal with the rutile structure.
     For T < Tt, VO2 is a semiconductor with a monoclinic structure.
     Semiconducting energy bands for the low-temperature structure were found from a
     parametrized tight-binding LCAO calcn. The semiconducting gap results not
     only from the reduced symmetry of the monoclinic phase, but also from
     changes in the tight-binding parameters which result from changed interat.
     distances. The joint d. of states derived from the calcn. is in very good
     agreement with exptl. optical data. The success of this calcn. shows
     that, given the crystal structure, the semiconducting band gap is
     completely understandable in terms of 1-electron theory. The group theory
     of this structure is discussed.
ST   energy band vanadium oxide; semiconducting vanadium oxide; band structure
     vanadium oxide
IT   Energy level, band structure
        (of vanadium dioxide semiconductor monoclinic phase)
IT   Electric conductivity and conduction
        (transition in, of vanadium dioxide)
IT   Semiconductor materials
        (vanadium dioxide monoclinic phase, energy band structure of)
IT   12036-21-4
     RL: USES (Uses)
        (energy band structure of semiconducting)

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L1   ANSWER 28 OF 28  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   1973:152709  CAPLUS
DN   78:152709
OREF 78:24499a,24502a
ED   Entered STN:  12 May 1984
TI   Energy bands of metallic vanadium dioxide
AU   Caruthers, Ed.; Kleinman, Leonard; Zhang, H. I.
CS   Dep. Phys., Univ. Texas, Austin, TX, USA
SO   Physical Review B:  Solid State (1973), 7(8), 3753-60
     CODEN: PLRBAQ; ISSN: 0556-2805
DT   Journal
LA   English
CC   71-2 (Electric Phenomena)
     Section cross-reference(s): 65
AB   At 68°, VO2 undergoes a phase transition from a semi-conductor with
     monoclinic structure to a rather poor metal with the rutile structure.  A
     modified augmented-plane-wave (APW) calcn. was made for the metal phase,
     using a semiempirical potential chosen to give agreement with the exptl.
     determined energy difference between the top of the O2p band and the Fermi
     surface.  A tight-binding parametrized LCAO calcn. was fitted to the 3
     points in the Brillouin zone where APW energy levels were calculated, and the
     resultant energy bands and d. of states are presented.  The poor conductivity
is
     probably due to the flatness of the lower d bands (and perhaps correlation
     effects) and not to any semimetallic nature of the energy bands.  The MO
     picture of rutile TiO2 and VO2 is also discussed.
ST   energy band vanadium oxide; band structure vanadium oxide; phase change
     vanadium oxide; semiconductor metal transition oxide
IT   Molecular orbital
        (of titanium dioxide and vanadium dioxide)
IT   Brillouin zone
        (of vanadium dioxide)
IT   Energy level, band structure
        (of vanadium dioxide, metallic-type elec. conductivity in relation to)
IT   Electric conductivity and conduction
        (transitions in, in vanadium dioxide)
IT   12036-21-4
     RL: PRP (Properties)
        (energy level band structure of, with metallic-type elec. conductivity)
IT   13463-67-7, properties
     RL: PRP (Properties)
        (mol. orbitals of)


=> e cook cory/au
E1           1     COOK COLWELL ANN/AU
E2           1     COOK CONAN P/AU
E3           0 --> COOK CORY/AU
E4           3     COOK CORY E/AU
E5           1     COOK COURTNEY/AU
E6           1     COOK COURTNEY F/AU
E7           3     COOK COURTNEY FREDERICK/AU
E8           1     COOK CRAGUE E/AU
E9           6     COOK CRAIG/AU
E10          6     COOK CRAIG R/AU
E11          1     COOK CRAIG RALPH/AU
E12          3     COOK CRAIG S/AU

=> s e4;d 1-3 all
L2           3 "COOK CORY E"/AU
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L2   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2008:418572  CAPLUS
ED   Entered STN:  03 Apr 2008
TI   Underground trampoline ring design
IN   Burnham, Tracy; Evans, K. Donald; Muller, Mark; Leopold, Jerry; Cook,
     Cory E.
PA   USA
SO   U.S. Pat. Appl. Publ.
     CODEN: USXXCO
DT   Patent
LA   English
INCL 482029000; 052741130
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   US 20080081739       A1    20080403   US 2007-857595         20070919
PRAI US 2007-857595             20070919
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 20080081739   INCL   482029000; 052741130
                  IPCI   A63B0005-11 [I,A]; A63B0005-00 [I,C*]; E04B0001-28
                         [I,A]
                  NCL    482/029.000; 052/741.130
AB   An in-ground trampoline system configured to provide a ground level
     jumping surface which consists of a trampoline, a pit, and a segmented
     retaining wall configured to support the walls of the pit.

L2   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2007:1120593  CAPLUS
DN   147:429231
ED   Entered STN:  05 Oct 2007
TI   Multiuse, solid cleaning device and composition
IN   Evans, K. Donald; Cook, Cory E.
PA   Eco-Safe Technologies, L.L.C., USA
SO   U.S. Pat. Appl. Publ., 38pp., Cont.-in-part of U.S. Ser. No. 597,837/
     CODEN: USXXCO
DT   Patent
LA   English
INCL 510445000
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   US 20070232517       A1    20071004   US 2006-535896         20060927
     US 20040162227       A1    20040819   US 2004-775264         20040210
     US 7053040           B2    20060530
     US 20050130868       A1    20050616   US 2004-925331         20040824
     WO 2005077064        A2    20050825   WO 2005-US4133         20050210
     WO 2005077064        A3    20061005
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
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    US 20070184998      A1    20070809   US 2006-597837        20060809
PRAI US 2004-775264     A2    20040210
    US 2004-925331      A2    20040824
    WO 2005-US4133      W     20050210
    US 2006-597837      A2    20060809
    US 1999-437532      A3    19991110
    US 2002-144331      A2    20020513
    US 2003-448239P     P     20030218
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 20070232517  INCL   510445000
                 IPCI   C11D0017-00 [I,A]
                 IPCR   C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04
                        [I,C*]; C11D0017-04 [I,A]
                 NCL    510/445.000
                 ECLA   C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;
                        C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
 US 20040162227  IPCI   C11D0003-08 [I,A]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 NCL    510/276.000; 510/445.000; 510/455.000; 510/511.000;
                        510/446.000; 510/507.000; 510/509.000; 510/531.000
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 US 20050130868  IPCI   C11D0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 NCL    510/459.000
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 WO 2005077064   IPCI   C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00
                        [I,A]; C11D0017-06 [I,A]
                 IPCR   C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04
                        [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C];
                        C11D0017-06 [I,A]
                 ECLA   C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;
                        C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
 US 20070184998  IPCI   C11D0003-395 [I,A]
                 NCL    510/302.000
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AB A multiuse cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of wash and rinse cycles. The cleaning agent includes a gas-releasing component and potassium silicate as a solubility control component to limit the solubility of the cleaning agent. The cleaning agent may include other ingredients such as an alkalinity agent as a pH regulator, a water softener to solvate metal ions in a solution of water, an optical brightener, an anti-redeposition agent, fragrances, surfactants, and other ingredients. Controlled dissoln. of

the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous enclosure may be disposed around the solid cleaning agent.

ST solid cleaning device compn; potassium silicate zeolite cleaning device

IT Carbonates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkali metal; multiuse, solid laundry cleaning device and composition)

IT Alkali metal compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(carbonates; multiuse, solid laundry cleaning device and composition)

IT Detergents
(cleaning compns.; multiuse, solid laundry cleaning device and composition)

IT Detergents
(laundry, solid device, multiuse; multiuse, solid laundry cleaning device and composition)

IT Fluorescent brighteners
Perfumes
Surfactants
(multiuse, solid laundry cleaning device and composition)

IT Alkali metal hydrides
Alkali metal hydroxides
Alkali metal oxides
Synthetic rubber, uses
Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(multiuse, solid laundry cleaning device and composition)

IT 497-19-8, Sodium carbonate, uses 994-36-5, Sodium citrate 1303-96-4, Borax 1310-73-2, Sodium hydroxide, uses 1312-76-1, Potassium silicate 3313-92-6, Sodium percarbonate 9000-11-7, Carboxymethyl cellulose 10332-33-9, Sodium perborate monohydrate
RL: TEM (Technical or engineered material use); USES (Uses)
(multiuse, solid laundry cleaning device and composition)

L2 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:527371 CAPLUS
DN 143:45326
ED Entered STN: 19 Jun 2005
TI Multiuse, solid cleaning device and composition
IN Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie
PA USA
SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.
CODEN: USXXCO
DT Patent
LA English
IC ICM C11D001-00
INCL 510459000
CC 46-5 (Surface Active Agents and Detergents)
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050130868	A1	20050616	US 2004-925331	20040824
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,

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          GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
          LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
          NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
          TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM
      RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
          AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
          EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
          RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
          MR, NE, SN, TD, TG
     EP 1725648           A2    20061129    EP 2005-713227         20050210
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           HR, LV, MK, YU
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     BR 2005007493        A     20070710    BR 2005-7493           20050210
     JP 2007522326        T     20070809    JP 2006-553208         20050210
     KR 2007009560        A     20070118    KR 2006-715949         20060807
     MX 2006PA08945       A     20070126    MX 2006-PA8945         20060807
     US 20070184998       A1    20070809    US 2006-597837         20060809
     US 20070232517       A1    20071004    US 2006-535896         20060927
PRAI US 1999-437532       A3    19991110
     US 2002-144331       A2    20020513
     US 2003-448239P      P     20030218
     US 2004-775264       A2    20040210
     US 2004-925331       A     20040824
     WO 2005-US4133       W     20050210
     US 2006-597837       A2    20060809
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 20050130868   ICM    C11D001-00
                  INCL   510459000
                  IPCI   C11D0001-00 [ICM,7]
                  IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
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                         C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
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                         C11D0011-00 [I,A]
                  NCL    510/459.000
                  ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                         C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                         C11D011/00F
 US 6403551       IPCI   C11D0013-00 [ICM,7]
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                         C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08
                         [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A];
                         C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00
                         [I,C*]; C11D0011-00 [I,A]
                  NCL    510/459.000; 134/022.190; 510/218.000; 510/219.000;
                         510/224.000; 510/293.000; 510/352.000; 510/378.000;
                         510/392.000; 510/428.000; 510/439.000; 510/476.000
                  ECLA   C11D011/00B2A; B01F005/04C18; C11D003/00B10;
                         C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                         C11D011/00F
 US 20020132752   IPCI   C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42
                         [ICS,7]
                  IPCR   B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00
                         [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*];
                         C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08
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	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
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WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08

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FTERM 3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28

KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to be disposed within a laundry cleaning machine tub and to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of laundry wash and rinse cycles. The cleaning agent includes a gas-releasing component, potassium silicate as a solubility control component to limit the solubility of the cleaning agent, an alkalinity agent as a pH regulator, and a water softener to solvate metal ions in a solution of water. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous covering or bag may be disposed around the solid cleaning agent. Thus, a multiuse laundry cleaning device comprises 42% to 52% by weight sodium perborate monohydrate as the gas-releasing component, 35% to 45% by weight potassium silicate as the solubility control component, 1% to 5% by weight zeolite as the water softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to 3% by weight of a optical brightener, 1 to 5% by weight of a fragrance component; and 0.5 to 3% by weight of an anti-redeposition component.

ST sodium perborate monohydrate potassium silicate zeolite cleaning device; solid cleaning compn sodium hydroxide

IT Detergents
(laundry, solid; multiuse, solid cleaning device and composition)

IT Zeolite-group minerals
Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(water softener; multiuse, solid cleaning device and composition)

IT 1310-73-2, Sodium hydroxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkalinity agent; multiuse, solid cleaning device and composition)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses 10332-33-9, Sodium perborate monohydrate 15630-89-4, Sodium percarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(gas-releasing component; multiuse, solid cleaning device and composition)

IT 1312-76-1, Potassium silicate
RL: TEM (Technical or engineered material use); USES (Uses)

```
        (solubility control component; multiuse, solid cleaning device and
composition)


=> e evans k/au
E1            1     EVANS JUSTIN/AU
E2            1     EVANS JUSTIN R/AU
E3           82 --> EVANS K/AU
E4           36     EVANS K A/AU
E5            2     EVANS K ALEX/AU
E6            4     EVANS K ALLISON/AU
E7            1     EVANS K ANDREW/AU
E8            2     EVANS K B/AU
E9            3     EVANS K C/AU
E10          24     EVANS K D/AU
E11           3     EVANS K DONALD/AU
E12          93     EVANS K E/AU

=> s e10 or e11
             24 "EVANS K D"/AU
              3 "EVANS K DONALD"/AU
L3           27 "EVANS K D"/AU OR "EVANS K DONALD"/AU

=> d 1-27 all

L3   ANSWER 1 OF 27  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2008:418572  CAPLUS
ED   Entered STN:  03 Apr 2008
TI   Underground trampoline ring design
IN   Burnham, Tracy; Evans, K. Donald; Muller, Mark; Leopold, Jerry;
     Cook, Cory E.
PA   USA
SO   U.S. Pat. Appl. Publ.
     CODEN: USXXCO
DT   Patent
LA   English
INCL 482029000; 052741130
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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PI   US 20080081739       A1    20080403   US 2007-857595         20070919
PRAI US 2007-857595             20070919
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 US 20080081739  INCL   482029000; 052741130
                 IPCI   A63B0005-11 [I,A]; A63B0005-00 [I,C*]; E04B0001-28
                        [I,A]
                 NCL    482/029.000; 052/741.130
AB   An in-ground trampoline system configured to provide a ground level
     jumping surface which consists of a trampoline, a pit, and a segmented
     retaining wall configured to support the walls of the pit.

L3   ANSWER 2 OF 27  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2007:1120593  CAPLUS
DN   147:429231
ED   Entered STN:  05 Oct 2007
TI   Multiuse, solid cleaning device and composition
IN   Evans, K. Donald; Cook, Cory E.
PA   Eco-Safe Technologies, L.L.C., USA
SO   U.S. Pat. Appl. Publ., 38pp., Cont.-in-part of U.S. Ser. No. 597,837/
     CODEN: USXXCO
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DT   Patent
LA   English
INCL 510445000
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE        APPLICATION NO.       DATE
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PI   US 20070232517       A1    20071004    US 2006-535896        20060927
     US 20040162227       A1    20040819    US 2004-775264        20040210
     US 7053040           B2    20060530
     US 20050130868       A1    20050616    US 2004-925331        20040824
     WO 2005077064        A2    20050825    WO 2005-US4133        20050210
     WO 2005077064        A3    20061005
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
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             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
     US 20070184998       A1    20070809    US 2006-597837        20060809
PRAI US 2004-775264       A2    20040210
     US 2004-925331       A2    20040824
     WO 2005-US4133       W     20050210
     US 2006-597837       A2    20060809
     US 1999-437532       A3    19991110
     US 2002-144331       A2    20020513
     US 2003-448239P      P     20030218
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                 IPCR   C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04
                        [I,C*]; C11D0017-04 [I,A]
                 NCL    510/445.000
                 ECLA   C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;
                        C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
 US 20040162227  IPCI   C11D0003-08 [I,A]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 NCL    510/276.000; 510/445.000; 510/455.000; 510/511.000;
                        510/446.000; 510/507.000; 510/509.000; 510/531.000
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 US 20050130868  IPCI   C11D0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
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C11D0011-00 [I,A]
NCL 510/459.000
ECLA B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F

WO 2005077064 IPCI C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
IPCR C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
ECLA C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

US 20070184998 IPCI C11D0003-395 [I,A]
NCL 510/302.000

AB A multiuse cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of wash and rinse cycles. The cleaning agent includes a gas-releasing component and potassium silicate as a solubility control component to limit the solubility of the cleaning agent. The cleaning agent may include other ingredients such as an alkalinity agent as a pH regulator, a water softener to solvate metal ions in a solution of water, an optical brightener, an anti-redeposition agent, fragrances, surfactants, and other ingredients. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous enclosure may be disposed around the solid cleaning agent.

ST solid cleaning device compn; potassium silicate zeolite cleaning device

IT Carbonates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkali metal; multiuse, solid laundry cleaning device and composition)

IT Alkali metal compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(carbonates; multiuse, solid laundry cleaning device and composition)

IT Detergents
(cleaning compns.; multiuse, solid laundry cleaning device and composition)

IT Detergents
(laundry, solid device, multiuse; multiuse, solid laundry cleaning device and composition)

IT Fluorescent brighteners
Perfumes
Surfactants
(multiuse, solid laundry cleaning device and composition)

IT Alkali metal hydrides
Alkali metal hydroxides
Alkali metal oxides
Synthetic rubber, uses
Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(multiuse, solid laundry cleaning device and composition)

IT 497-19-8, Sodium carbonate, uses 994-36-5, Sodium citrate 1303-96-4, Borax 1310-73-2, Sodium hydroxide, uses 1312-76-1, Potassium silicate 3313-92-6, Sodium percarbonate 9000-11-7, Carboxymethyl cellulose 10332-33-9, Sodium perborate monohydrate
RL: TEM (Technical or engineered material use); USES (Uses)
(multiuse, solid laundry cleaning device and composition)

L3 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:527371 CAPLUS
DN 143:45326
ED Entered STN: 19 Jun 2005
TI Multiuse, solid cleaning device and composition

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IN   Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie
PA   USA
SO   U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C11D001-00
INCL 510459000
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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PI   US 20050130868       A1    20050616    US 2004-925331         20040824
     US 6403551           B1    20020611    US 1999-437532         19991110
     US 20020132752       A1    20020919    US 2002-144331         20020513
     US 6689276           B2    20040210
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     WO 2005077064        A3    20061005
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     CN 1918276           A     20070221    CN 2005-80004598       20050210
     BR 2005007493        A     20070710    BR 2005-7493           20050210
     JP 2007522326        T     20070809    JP 2006-553208         20050210
     KR 2007009560        A     20070118    KR 2006-715949         20060807
     MX 2006PA08945       A     20070126    MX 2006-PA8945         20060807
     US 20070184998       A1    20070809    US 2006-597837         20060809
     US 20070232517       A1    20071004    US 2006-535896         20060927
PRAI US 1999-437532       A3    19991110
     US 2002-144331       A2    20020513
     US 2003-448239P      P     20030218
     US 2004-775264       A2    20040210
     US 2004-925331       A     20040824
     WO 2005-US4133       W     20050210
     US 2006-597837       A2    20060809
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 20050130868  ICM    C11D001-00
                 INCL   510459000
                 IPCI   C11D0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
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                NCL     510/459.000
                ECLA    B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
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US 6403551      IPCI    C11D0013-00 [ICM,7]
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                        510/392.000; 510/428.000; 510/439.000; 510/476.000
                ECLA    C11D011/00B2A; B01F005/04C18; C11D003/00B10;
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US 20020132752  IPCI    C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42
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US 20040162227  IPCI    C11D0003-08 [I,A]
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                        C11D0011-00 [I,A]
                NCL     510/276.000; 510/445.000; 510/455.000; 510/511.000;
                        510/446.000; 510/507.000; 510/509.000; 510/531.000
                ECLA    B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
AU 2005211747   IPCI    B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00
                        [I,A]; C11D0003-02 [I,A]
                IPCR    B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00
                        [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C];
                        C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08
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                        C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00
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CA 2554448      IPCI    C11D0017-04 [I,A]; D06F0039-02 [I,A]
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                        [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A];
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WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
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	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
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KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to be disposed within a laundry cleaning machine tub and to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of laundry wash and rinse cycles. The cleaning agent includes a gas-releasing component, potassium silicate as a solubility control component to limit the solubility of the
cleaning agent, an alkalinity agent as a pH regulator, and a water softener to solvate metal ions in a solution of water. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous covering or bag may be disposed around the solid cleaning agent. Thus, a multiuse laundry

cleaning device comprises 42% to 52% by weight sodium perborate monohydrate
as the gas-releasing component, 35% to 45% by weight potassium silicate as
the solubility control component, 1% to 5% by weight zeolite as the water
softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to
3%
by weight of a optical brightener, 1 to 5% by weight of a fragrance component;
and 0.5 to 3% by weight of an anti-redeposition component.
ST sodium perborate monohydrate potassium silicate zeolite cleaning device;
solid cleaning compn sodium hydroxide
IT Detergents
(laundry, solid; multiuse, solid cleaning device and composition)
IT Zeolite-group minerals
Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(water softener; multiuse, solid cleaning device and composition)
IT 1310-73-2, Sodium hydroxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkalinity agent; multiuse, solid cleaning device and composition)
IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses
10332-33-9, Sodium perborate monohydrate 15630-89-4, Sodium percarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(gas-releasing component; multiuse, solid cleaning device and composition)
IT 1312-76-1, Potassium silicate
RL: TEM (Technical or engineered material use); USES (Uses)
(solubility control component; multiuse, solid cleaning device and
composition)

L3 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:229323 CAPLUS
DN 139:317359
ED Entered STN: 25 Mar 2003
TI Alendronate affects long bone length and growth plate morphology in the
oim mouse model for Osteogenesis Imperfecta
AU Evans, K. D.; Lau, S. T.; Oberbauer, A. M.; Martin, R. B.
CS Department of Animal Science, University of California, Davis, CA, 95616,
USA
SO Bone (New York, NY, United States) (2003), 32(3), 268-274
CODEN: BONEDL; ISSN: 8756-3282
PB Elsevier Science Inc.
DT Journal
LA English
CC 1-12 (Pharmacology)
AB Alendronate, a bisphosphonate drug, has shown promise in reducing
remodeling and bone loss in postmenopausal osteoporosis. Alendronate acts
directly on the osteoclast, inhibiting its resorption capability. This
inhibition of osteoclast activity has led to the use of bisphosphonates in
the treatment of the osteogenesis imperfecta condition. Treatment of
osteogenesis imperfecta with bisphosphonates enhances bone strength, but
the consequences on linear bone growth are not well defined. Using the
oim mouse model for type III osteogenesis imperfecta, two doses of
alendronate, low (0.125 mg/kg/wk) and high (2.5 mg/kg/wk) were
administered weekly via i.p. injection starting at 4 wk of age and ending
at 12 wk of age to assess the effects of alendronate on humerus and ulna
length. The higher dose of alendronate reduced humerus and ulna length in
the oim/wt and wt/wt genotypes for both sexes. The oim/oim humerus and
ulna were not significantly affected by the higher dose of alendronate in
females, but reduced bone length in males. Proximal humerus growth plate
area was affected by both genotype and alendronate dose and growth plate
diameter was increased at the chondro-osseous junction by both alendronate
doses. Genotype and alendronate dose affected growth plate height. The
oim/oim genotype displayed taller growth plates. The high dosage of
alendronate increased overall growth plate height, particularly within the

hypertrophic zone, which suggests a failure of vascular invasion-induced apoptosis in the hypertrophic cells. In conclusion, these results indicate that high doses of alendronate (>2.5 mg/kg/wk) inhibit long bone length in mice through alteration of the growth plate and possibly reduced resorption at the chondro-osseous junction.

ST alendronate bone length growth plate morphol osteogenesis imperfecta

IT Bone
Sex
(alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

IT Bone
(growth plate; alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

IT Bone, disease
(osteogenesis imperfecta; alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

IT 66376-36-1, Alendronate
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Bembi, B; J Pediatr 1997, V131, P622 CAPLUS
(2) Bergstrom, J; Arch Biochem Biophys 2000, V373, P231 CAPLUS
(3) Bittner, K; Exp Cell Res 1998, V238, P491 CAPLUS
(4) Brumsen, C; Medicine 1997, V76, P266 CAPLUS
(5) Camacho, N; Calcif Tissue Int 2001, V69, P94 CAPLUS
(6) Camacho, N; J Bone Min Res 1999, V14, P264 MEDLINE
(7) Cole, W; Clin Orthop 1997, V343, P235
(8) Culbert, A; Am J Med Genet 1996, V63, P167 MEDLINE
(9) Devogelaer, J; Skeletal Radiol 1987, V16, P360 MEDLINE
(10) Farnum, C; J Orthop Res 1989, V7, P654 MEDLINE
(11) Gerber, H; Nat Med 1999, V5, P623 CAPLUS
(12) Glorieux, F; N Engl J Med 1998, V339, P947 CAPLUS
(13) Gordon, K; Growth Dev Aging 1994, V58, P95 MEDLINE
(14) Hunter, W; Anat Rec 1990, V227, P223 MEDLINE
(15) Karras, D; J Rheumatol 1993, V20, P162 MEDLINE
(16) Kirsch, T; J Cell Biol 1997, V137, P1149 CAPLUS
(17) Landsmeer-Beker, E; Eur J Pediatr 1997, V156, P792 MEDLINE
(18) Lee, E; J Histochem Cytochem 1995, V43, P525 CAPLUS
(19) Lin, J; Drug Metab Dispos 1992, V20, P473 CAPLUS
(20) Luckman, S; J Bone Miner Res 1998, V13, P581 CAPLUS
(21) Marion, M; Clin Orthop 1993, V293, P327
(22) McBride, D; Genomics 1994, V20, P135 CAPLUS
(23) Oberbauer, A; Growth Dev Aging 1994, V58, P83 CAPLUS
(24) Pomp, D; Mouse Genome 1991, V89, P279
(25) Saban, J; Bio techniques 1996, V21, P190 CAPLUS
(26) Saban, J; Bone 1996, V19, P575 MEDLINE
(27) Sanguinetti, C; J Bone Joint Surg Br 1990, V72-B, P475
(28) Stevens, D; Mol Cell Endocrinol 1999, V151, P195 CAPLUS
(29) Wallis, G; Curr Biol 1996, V6, P1577 CAPLUS

L3 ANSWER 5 OF 27 CAPLUS

AN 2001:689723 CAPLUS

DN 135:353030

ED Entered STN: 20 Sep 2001

TI Effects of pre and antenatal elevated and chronic oMt1a-oGH transgene expression on adipose deposition and linear bone growth in mice

AU Oberbauer, A. M.; Cruickshank, J.; Thomas, A.; Stumbaugh, A.; Evans,

K. D.; Murray, J. D.; Egan, A. R.
CS Department of Animal Science, University of California, Davis, USA
SO Growth, Development and Aging (2001), 65(1), 3-13
CODEN: GDAGE9; ISSN: 1041-1232
PB Growth Publishing Co., Inc.
DT Journal
LA English
CC 2-5 (Mammalian Hormones)
AB Exposing growing oMt1a-oGH transgenic mice with the regulatable metallothionein promoter to elevated GH for 3 wk after weaning enhances bone length and adipocyte differentiation. The objective of the present study was to investigate the consequences of highly elevated GH exposure during fetal and early postnatal growth periods on the mature phenotype. Transgene expression, hence elevated GH, was achieved in fetuses and neonates by providing 25 mM ZnSO4 to the drinking water of the dams. Wildtype and oMt1a-oGH male and female mice were (a) never exposed to the transgene stimulus, (b) exposed from birth to 21 d of age, (c) exposed through gestation until 21 d of age, (d) exposed only through gestation, or (e) exposed only during the first 7 d postpartum. At 84 d of age when mature body size was reached, ulna and humerus lengths, and body, liver, gonadal fat pad, mesenteric fat pad, and cleaned gastrointestinal (GI) tract wts. were recorded. Bone lengths were also determined in a subset of mice at 22 d of age. While early exposure to the elevated GH increased ulna and humerus length at 22 d of age, the early GH levels failed to produce significant changes in adipose content or bone lengths at maturity. However, chronic exposure to slightly elevated GH, as seen in the transgenics never induced to express the transgenic GH, depressed liver and GI wts. and increased adipose depot wts. and humerus lengths across both sexes. These results suggest that certain tissues in the body, while capable of responding to GH during early developmental periods, are not fully entrained to sustain that growth response once the GH stimulus is withdrawn. Further, the preadipocyte pool appears unable to respond to GH early in development. Finally, the tissues examined exhibited a differential response to the GH, suggesting that different tissues possess distinct response thresholds.
ST GH fetus neonate bone growth adipose deposition
IT Adipose tissue
Body weight
Bone
Digestive tract
Liver
Mesentery
Newborn
Reproductive organ
(GH levels in fetus and neonate effects on adipose deposition and linear bone growth in mice)
IT Adipose tissue
(adipocyte, differentiation; GH levels in fetus and neonate effects on adipose deposition and linear bone growth in mice)
IT Cell differentiation
(adipocyte; GH levels in fetus and neonate effects on adipose deposition and linear bone growth in mice)
IT Embryo, animal
(fetus; GH levels in fetus and neonate effects on adipose deposition and linear bone growth in mice)
IT 9002-72-6, Growth hormone
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(GH levels in fetus and neonate effects on adipose deposition and linear bone growth in mice)
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Ailhaud, G; Annu Rev Nutr 1992, V12, P207 CAPLUS
(2) Barker, D; Nutrition 1997, V13, P807 MEDLINE
(3) Bartke, A; Proc Soc Exp Biol 1994, V206, P345 CAPLUS
(4) Breur, G; J Orthop Res 1991, V9, P348 MEDLINE
(5) Choi, H; Growth Horm IGF Res 2000, V10(Supplement B), PS1
(6) Chomczynski, P; Anal Biochem 1987, V162, P156 CAPLUS
(7) Eisen, E; Growth Dev Aging 1998, V62, P173 CAPLUS
(8) Farnum, C; Calcif Tissue Int 1993, V52, P110 MEDLINE
(9) Hanna, J; Kidney Int 1995, V47, P1374 CAPLUS
(10) Hauner, H; Acta Paediatric 1992, V383(Suppl), P47
(11) Isaksson, O; Endocr Rev 1987, V8, P426 CAPLUS
(12) Lafeber, H; Acta Paediatric 1997, V423(Suppl), P202
(13) Macleod, J; J Endo 1991, V131, P395 CAPLUS
(14) Mao, J; Mol Cell Endocrinol 1997, V129, P135 CAPLUS
(15) Nougues, J; Inter J Obesity Rel Metab Disorders 1993, V17, P159 CAPLUS
(16) Oberbauer, A; Am J Physio 1992, V262, PE936 CAPLUS
(17) Oberbauer, A; Growth, Dev & Aging 1994, V58, P83 CAPLUS
(18) Oberbauer, A; Growth, Dev & Aging 1997, V61, P169 CAPLUS
(19) Oberbauer, A; Growth, Dev & Aging 1998, V62, P87 CAPLUS
(20) Pendergrass, W; J Cell Physiol 1993, V156, P96 CAPLUS
(21) Pomp, D; Biol Reprod 1995, V52, P170 CAPLUS
(22) Pomp, D; Transgenic Res 1996, V5, P13 CAPLUS
(23) Sambrook, J; Molecular Cloning - A Laboratory Manual edition 2 1989
(24) Shanahan, C; Mol Cell Biol 1989, V9, P5473 CAPLUS
(25) Stefaneanu, L; Lab Investigation 1993, V68, P584 MEDLINE
(26) Vanderpooten, A; Domest Anim Endocrinol 1993, V10, P199 CAPLUS
(27) Zou, L; Metab Clin Exp 1997, V46, P114 CAPLUS

L3 ANSWER 6 OF 27 CAPLUS
AN 2001:287721 CAPLUS
DN 134:370880
ED Entered STN: 23 Apr 2001
TI Raman lidar: atmospheric applications
AU Demoz, B. B.; Starr, D. O'C.; Whiteman, D.; Evans, K. D.; Schwemmer, G.; Ferrare, R. A.; Turner, D. D.
CS NASA Goddard Space Flight Center, Greenbelt, MD, 20771, USA
SO Symposium on Lidar Atmospheric Monitoring, [Preprints], 1st, Long Beach, CA, United States, Jan. 9-14, 2000 (2000), 11-14 Publisher: American Meteorological Society, Boston, Mass.
CODEN: 69BEX9
DT Conference
LA English
CC 59-1 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 79
AB Data are shown which demonstrate the Raman lidar system's superb capability in visualizing and quantifying the detailed vertical and horizontal stratification of the atmospheric to more than 8 km altitude at night and 3-4 km during daytime. Fine-scale structures in the boundary layer and/or between air mass boundaries were easily detected and the dynamic processes involved in generating these structures inferred.
ST atm study Raman lidar
IT Lidar
(Raman; atmospheric applications of Raman lidar)
IT Atmosphere (earth)
(atmospheric applications of Raman lidar)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Brooks, H; Proceedings of the Sixth Atmospheric Radiation Measurement (ARM) Science Team Meeting 1996, P31
(2) Eberhard, W; J Atmos Oceanic Technol 1986, V3, P499
(3) Fankhauser, J; Mon Wea Rev 1976, V104, P576

(4) Ferrare, R; J Atmos Oceanic Technol 1995, V12, P1177
(5) Goldsmith, J; Applied Optics 1998, V37, P4979 CAPLUS
(6) Marwitz, J; J Appl Meteor 1972, V11, P236
(7) Melfi, S; Applied Optics 1997, V36, P3551 CAPLUS
(8) Pal, S; Applied Optics 1992, V31, P1488
(9) Turner, D; J Atmos and Oceanic Tech 1999, V16, P1062

L3 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:412834 CAPLUS
DN 129:248030
OREF 129:50463a,50466a
ED Entered STN: 08 Jul 1998
TI Comparison with lidar-derived water vapor with other moisture measurements during the CAMEX-2, LASE and WMO field campaigns
AU Evans, K. D.; Melfi, S. H.; Ferrare, R. A.; Whiteman, D. N.; Schwemmer, G.; Browell, E. V.; Schmidlin, F. J.; Harris, R.; Balsiger, F.; Philbrick, C. R.; Feltz, W.; Smith, W. L.
CS Hughes STX, Under Contract at NASA/Goddard Space Flight Center, Greenbelt, MD, USA
SO Advances in Atmospheric Remote Sensing with Lidar, Selected Papers of the International Laser Radar Conference, 18th, Berlin, July 22-26, 1996 (1997), Meeting Date 1996, 341-344. Editor(s): Ansmann, Albert. Publisher: Springer, Berlin, Germany.
CODEN: 66IJAF
DT Conference
LA English
CC 53-10 (Mineralogical and Geological Chemistry)
Section cross-reference(s): 73
AB Field missions were conducted at Wallops Island, VA in August and Sept. 1995. The NASA Goddard Space Flight Center Scanning Raman Lidar participated in all 3 campaigns by measuring water vapor for ground truth comparisons. Water vapor measurements were compared from 3 lidars, 2 in situ hygrometers, VIZ and Vaisala hygrometers, and an IR interferometer. The comparisons agree to within 5-10% from the ground up to 7 km.
ST atm water vapor measurement lidar comparison
IT Atmosphere (earth)
Humidity
Lidar
Water vapor
(comparison of lidar-derived water vapor with other moisture measurements during CAMEX-2, LASE and WMO field campaigns)
IT 7732-18-5, Water, occurrence
RL: ANT (Analyte); GOC (Geological or astronomical occurrence); ANST (Analytical study); OCCU (Occurrence)
(vapor; comparison of lidar-derived water vapor with other moisture measurements during CAMEX-2, LASE and WMO field campaigns)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Browell, E; 18th International Laser Radar Conference Proceedings Springer-Verlag, this issue 1996
(2) Collard, A; J Atmos Sci 1995, V52(23), P4264
(3) Ferrare, R; J Atmos and Oceanic Tech 1995, V12(6), P1177
(4) Moore, A; 18th International Laser Radar Conference Proceedings Springer-Verlag, this issue 1996
(5) Philbrick, C; Atmospheric Propagation and Remote Sensing III SPIE Proceedings 1994, V2222, P922 CAPLUS
(6) Starr, D; The role of water vapor in climate:A strategic research plan for the proposed GEWEX water vapor project (GVAP) 1991, P50

L3 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:412821 CAPLUS
DN 129:113219

OREF 129:23147a,23150a
ED Entered STN: 08 Jul 1998
TI Observation of anomalous Raman scattering associated with clouds
AU Melfi, S. H.; Li, J.; Evans, K. D.; Ferrare, R. A.; Whiteman, D. N.; Schwemmer, G.
CS Dept. of Physics, Univ. of Maryland-Balt. County, Baltimore, MD, 21228, USA
SO Advances in Atmospheric Remote Sensing with Lidar, Selected Papers of the International Laser Radar Conference, 18th, Berlin, July 22-26, 1996 (1997), Meeting Date 1996, 95-98. Editor(s): Ansmann, Albert. Publisher: Springer, Berlin, Germany.
CODEN: 66IJAF
DT Conference
LA English
CC 61-9 (Water)
Section cross-reference(s): 53, 79
AB During a field campaign in 1991, the NASA Goddard Space Flight Center Scanning Raman Lidar measured, in the water vapor channel, Raman scattering from a low-level cloud in excess of saturation Excess scattering has been interpreted to be spontaneous Raman scattering by liquid water in the cloud droplets. A review of theor. and laboratory studies indicated the technique may provide a remote method to observe cloud liquid water.
ST cloud liq water Raman laser scattering
IT Lidar
(Raman; observation anomalous lidar Raman scattering associated with cloud liquid water content)
IT Water vapor
(atmospheric; observation anomalous lidar Raman scattering associated with cloud liquid water content)
IT Atmospheric aerosols
Cloud waters
Raman spectra
(observation anomalous lidar Raman scattering associated with cloud liquid water content)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Charlson, R; Science 1992, V255, P423 CAPLUS
(2) Evans, K; Submitted to Appl Opts 1996
(3) Ferrare, R; GRL 1992, V19, P1599
(4) Ferrare, R; J Atmos And Oceanic Tech 1995, V12, P1177
(5) Kerker, M; Appl Opt 1979, V18, P1172 CAPLUS
(6) Melfi, S; J Appl Meteor 1989, V28, P789
(7) Melfi, S; Submitted to Appl Opt 1996
(8) Scherer, J; J Phys Chem 1974, V78, P1304 CAPLUS
(9) Schweigar, G; J Opt Soc Am B 1991, V8, P1770
(10) Whiteman, D; Opts Lett 1993, V18, P247 CAPLUS

L3 ANSWER 9 OF 27 CAPLUS
AN 1998:412819 CAPLUS
DN 129:248020
OREF 129:50459a,50462a
ED Entered STN: 08 Jul 1998
TI Raman lidar and sun photometer measurements of aerosols and water vapor
AU Ferrare, R. A.; Melfi, S. H.; Whiteman, D.; Evans, K. D.; Schwemmer, G.; Kaufman, Y.; Ellingson, R.
CS Hughes STX, Code 912, NASA/GSFC, Greenbelt, MD, 20771, USA
SO Advances in Atmospheric Remote Sensing with Lidar, Selected Papers of the International Laser Radar Conference, 18th, Berlin, July 22-26, 1996 (1997), Meeting Date 1996, 23-26. Editor(s): Ansmann, Albert. Publisher: Springer, Berlin, Germany.
CODEN: 66IJAF

DT   Conference
LA   English
CC   53-10 (Mineralogical and Geological Chemistry)
     Section cross-reference(s): 73
AB   NASA/GSFC Scanning Raman Lidar (SRL) measurements of water vapor mixing ratio, relative humidity, aerosol backscattering and extinction are used to investigate relationships between aerosol optical properties and water vapor. The dependence of the normalized aerosol extinction with relative humidity measured by lidar, shows some indication of aerosol types. The aerosol extinction/backscattering ratio measured by SRL, and the aerosol size distributions derived from the sun photometer sky radiance data, were also used to identify changes in aerosol size and/or composition associated with
     hygroscopic aerosols.
ST   atm aerosol water vapor Raman lidar
IT   Absorptivity
     Atmosphere (earth)
     Atmospheric aerosols
     Photometers
     Water vapor
        (Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)
IT   Lidar
        (Raman; Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)
IT   Optical properties
     Particle size distribution
        (of aerosol; Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)
IT   Humidity
        (relative; Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)
RE.CNT 6   THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) d'Almeida, G; Atmospheric Aerosols, Global Climatology and Radiative Characteristics 1991, P561
(2) Ferrare, R; Geophys Res Letters 1992, V19(15), P1599
(3) Ferrare, R; Optical Remote Sensing of the Atmosphere Technical Digest 1993, V5, P11
(4) Holben, B; Accepted for publication Rem Sens Environ 1995
(5) Kaufman, Y; J Geophys Res 1994, V99(D5), P10341
(6) Pilinis, C; J Geophys Res 1995, V100(D9), P18739

L3   ANSWER 10 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1989:446512 CAPLUS
DN   111:46512
OREF 111:7769a,7772a
ED   Entered STN: 05 Aug 1989
TI   Theoretical electron density and temperature sensitive emission line ratios for helium-like silicon (Si XIII) compared to DITE tokamak observations
AU   Keenan, F. P.; Barnsley, R.; Dunn, J.; Evans, K. D.; McCann, S. M.; Peacock, N. J.
CS   Dep. Pure Appl. Phys., Queen's Univ., Belfast, BT7 1NN, UK
SO   Journal de Physique, Colloque (1989), (C1, Int. Conf. Phys. Multiply Charged Ions Int. Workshop E.C.R. Ion Sources, 1988), C1-559/C1-564
     CODEN: JPQCAK; ISSN: 0449-1947
DT   Journal
LA   English
CC   71-2 (Nuclear Technology)
     Section cross-reference(s): 70, 73
AB   New calcns. of the e d. sensitive emission line ratio R (= f/i) and temperature

sensitive ratio G (= (f + i)/r) in He-like Si XIII are presented, where f, i, and r are the forbidden 1s2 1S - 1s2s 3S, intercombination 1s2 1S - 1s2p 3P1,2 and resonance 1s2 1S - 1s2p 1P transitions, resp. A comparison of these with R and G ratios measured from x-ray spectra of the DITE tokamak, for which the e d. and temperature have been well determined, reveals excellent agreement between theory and observation, with discrepancies of typically <10%. This provides exptl. support for the accuracy of the atomic data adopted in the line ratio calcns. The theor. results may therefore be applied with confidence to the anal. of remote sources for which no independent e d. and temperature ests. exist, such as solar flares.

ST tokamak plasma diagnostics DITE; fusion plasma diagnostics DITE

IT Nuclear fusion reactor fuels and plasmas
(diagnostics of DITE tokamak, theor. electron d. and temperature sensitive emission line ratios for helium-like silicon in relation to)

IT 16998-71-3, properties
RL: PRP (Properties)
(electron d. and temperature sensitive emission line ratios for, theor. calcn. of, DITE tokamak plasma diagnostics in relation to)

L3 ANSWER 11 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1989:430751 CAPLUS
DN 111:30751
OREF 111:5153a,5156a
ED Entered STN: 21 Jul 1989
TI Experimental measurement of dielectronic satellites to the helium-like aluminum 1s2-1s2p 1P1 resonance line from laser produced plasmas
AU Dunn, J.; Barnsley, R.; Evans, K. D.; Peacock, N. J.; Tallents, G. J.; Norreys, P. A.; Key, M. H.
CS Dep. Phys., Leicester Univ., Leicester, LE1 7RH, UK
SO Journal de Physique, Colloque (1989), (C1, Int. Conf. Phys. Multiply Charged Ions Int. Workshop E.C.R. Ion Sources, 1988), C1-551/C1-557
CODEN: JPQCAK; ISSN: 0449-1947
DT Journal
LA English
CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB Exptl. observations are given of satellite structure to the 1s2-1s2p resonance lines of He-like Al11+ emitted from short pulse (20 ps), dense (ne .apprx.1023/cm3) laser produced plasmas. A Johann type PET (002) crystal spectrometer with high resolving power was used to make electron temperature and d. for these plasma conditions. The results were compared with theor. calcns.
ST aluminum cation x ray
IT Electron temperature
(in laser-produced aluminum plasma)
IT Plasma, chemical and physical effects
(x-ray emission from, helium-like aluminum resonance line in)
IT 16998-70-2, Aluminum(11+), properties
RL: PRP (Properties)
(x-ray spectral lines of, in laser-produced plasma)

L3 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1989:238474 CAPLUS
DN 110:238474
OREF 110:39411a,39414a
ED Entered STN: 25 Jun 1989
TI Electron density and temperature-sensitive x-ray-emission-line ratios for heliumlike silicon (Si XIII) in the DITE tokamak
AU Keenan, F. P.; McCann, S. M.; Barnsley, R.; Dunn, J.; Evans, K. D. ; Peacock, N. J.
CS Dep. Pure Appl. Phys., Queen's Univ., Belfast, BT7 1NN, UK
SO Physical Review A: Atomic, Molecular, and Optical Physics (1989), 39(8),

4092-7
CODEN: PLRAAN; ISSN: 0556-2791
DT Journal
LA English
CC 71-2 (Nuclear Technology)
Section cross-reference(s): 73
AB Recent calcns. of e impact excitation rates in He-like Si XIII are used to derive the e-d.-sensitive emission-line ratio R (f/i) and temperature-sensitive ratio G[(f + i)/r], where f, i, and r are the forbidden 1s21S-1s2s3S, intercombination 1s21S-1s2p P1,2 and resonance 1s21S-1s2p1P transitions, resp. A comparison of these with R and G ratios measured from x-ray spectra of the divertor injected tokamak exp (DITE) for which the e d. and temperature have been well determined, reveals good agreement between theory
and
observation, with discrepancies of typically 8% in R and 5% in G. This provides exptl. support for the accuracy of the atomic data adopted in the line ratio calcns. The theor. results may be applied to the anal. of remote sources for which no independent e d. and temperature ests. exist (such as solar flares), in order to derive values of Ne and Te which, on the basis of the above comparison between theory and observation, should be accurate to ±0.3 and ±0.1 in the log, resp.
ST tokamak plasma electron density diagnostics; fusion plasma electron density diagnostics
IT Nuclear fusion reactor fuels and plasmas
(electron d. and temperature-sensitive x-ray-emission-line ratios for DITE tokamak)
IT 16998-71-3, properties
RL: PRP (Properties)
(electron d. and temperature-sensitive x-ray-emission line ratios for, in DITE tokamak)

L3 ANSWER 13 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:463643 CAPLUS
DN 109:63643
OREF 109:10531a,10534a
ED Entered STN: 19 Aug 1988
TI High-resolution spectroscopy of DITE tokamak in the 10-Å region
AU Dunn, J.; Barnsley, R.; Evans, K. D.; Peacock, N. J.
CS Dep. Phys., Leicester Univ., Leicester, LE1 7RH, UK
SO Journal de Physique, Colloque (1988), C1(IAU Colloq. No. 102 UV X-ray Spectrosc. Astrophys. Lab. Plasmas, 1988), C1-91/C1-94
CODEN: JPQCAK; ISSN: 0449-1947
DT Journal
LA English
CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 71
AB An account is given of the x-ray emission from the DITE tokamak at 4-10 Å measured by a Johann curved crystal photog. spectrometer. This high resolution instrument was used for detailed line identifications, eg. of L-shell transitions in the Fe spectrum at .apprx.8 Å and of the He-like ion spectra of Al11+, Si12+, and Ar16+. The fine structure was resolved for H-like Mg11+, Al12+, and Si13+. Departures from the statistical value of 0.5 for β, the intensity ratio of the Lyman-α doublet, were observed Exptl. values for the fine structure separation are presented for these medium Z metals.
ST x ray DITE tokamak plasma
IT Isoelectronic series
(helium and hydrogen, x-ray spectra of, in plasma)
IT X-ray spectrometry
(of DITE tokamak, high-resolution)
IT Nuclear fusion reactors, tokamak

(x-ray spectroscopy of DITE, high-resolution)
IT 7440-59-7, Helium, properties
RL: PRP (Properties)
(x-ray spectra of DITE tokamak plasma of)
IT 7440-59-7D, Helium, isoelectronic series, properties 11130-84-0, Argon(16+), properties 12385-13-6D, Hydrogen atom, isoelectronic series, properties 12596-02-0, Iron(22+), properties 12596-03-1, Iron(23+), properties 16941-71-2, Silicon(11+), properties 16998-70-2, Aluminum(11+), properties 16998-71-3, Silicon(12+), properties 16998-99-5, Magnesium(10+), properties 18399-48-9, Aluminum(12+), properties 18639-35-5, Magnesium(11+), properties 23778-10-1, Silicon(13+), properties
RL: PRP (Properties)
(x-ray spectra of, in DITE tokamak)

L3 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:445552 CAPLUS
DN 109:45552
OREF 109:7539a,7542a
ED Entered STN: 05 Aug 1988
TI Axial observation of x-ray spectra from a beam-foil source
AU Laming, J. M.; Silver, J. D.; Barnsley, R.; Dunn, J.; Evans, K. D. ; Peacock, N. J.
CS Clarendon Lab., Univ. Oxford, Oxford, OX1 3PU, UK
SO Journal de Physique, Colloque (1988), C1(IAU Colloq. No. 102 UV X-ray Spectrosc. Astrophys. Lab. Plasmas, 1988), C1-339/C1-342
CODEN: JPQCAK; ISSN: 0449-1947
DT Journal
LA English
CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB New observations of x-ray spectra from foil-excited heavy ion beams are reported. By observing the target in a direction along the beam axis, an improvement in spectral resolution, $\delta\lambda/\lambda$, by a factor of .apprx.2 was achieved, due to the reduced Doppler broadening in this geometry.
ST x ray heavy ion foil interaction
IT Ion beams
(x-ray emission from foil interactions with)
IT 14041-57-7, Neon(6+), properties
RL: PRP (Properties)
(interaction of, with carbon foil, x-ray emission from neon(9+) in)
IT 14700-85-7, Silicon(8+), properties
RL: PRP (Properties)
(interaction of, with carbon foil, x-ray emission from silicon(12+) in)
IT 7440-44-0, properties
RL: PRP (Properties)
(x-ray emission by ion beam interactions with foil of)
IT 15721-59-2, Neon(9+), properties 16998-71-3, Silicon(12+), properties
RL: RCT (Reactant); RACT (Reactant or reagent)
(x-ray emission by, in beam-foil interactions)

L3 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:444758 CAPLUS
DN 109:44758
OREF 109:7423a,7426a
ED Entered STN: 05 Aug 1988
TI Broadband (1-25 Å) x-ray crystal spectroscopy of impurity ions in the dite tokamak
AU Barnsley, R.; Evans, K. D.; Hawkes, N. C.; Peacock, N. J.
CS Dep. Phys., Univ. Leicester, Leicester, LE1 7RH, UK
SO Journal de Physique, Colloque (1988), C1(IAU Colloq. No. 102 UV X-ray

Spectrosc. Astrophys. Lab. Plasmas, 1988), C1-207/C1-210
CODEN: JPQCAK; ISSN: 0449-1947
DT Journal
LA English
CC 71-2 (Nuclear Technology)
AB Results are presented from a Bragg rotor spectrometer for wide-ranging studies of intrinsic and injected impurity ions in the DITE Tokamak. The instrument has absolute calibration for flux and wavelength and can detect impurities at the part per million level in the band from 1 to 24 Å. Monochromator and fast spectral survey modes, combined with a spatial scan facility, result in a versatile and powerful diagnostic tool.
ST x ray impurity tokamak plasma; fusion reactor impurity x ray
IT Nuclear fusion reactor fuels and plasmas
(x-ray spectroscopy of impurity ions in)
IT Spectrometers
(x-ray, for impurity ion diagnostics in tokamak plasma)
IT 7440-37-1D, Argon, ions, properties 12663-84-2, Iron(18+), properties 12663-85-3, Iron(19+), properties 12663-86-4, Iron(20+), properties 12663-87-5, Iron(21+), properties 14158-22-6, Oxygen(6+), properties 14274-89-6, Oxygen(7+), properties 16998-71-3, Silicon(12+), properties 16998-99-5, Magnesium(10+), properties 16999-02-3, Chlorine(15+), properties 18639-35-5, Magnesium(11+), properties 20522-79-6, Chromium(14+), properties 23739-08-4, Silicon(14+), properties 23778-10-1, Silicon(13+), properties 37366-92-0, Iron(16+), properties
RL: PRP (Properties)
(spectral lines of impurity of, in x-ray spectra of tokamak)

L3 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:121439 CAPLUS
DN 108:121439
OREF 108:19751a,19754a
ED Entered STN: 01 Apr 1988
TI Axial observation of a beam-foil source
AU Laming, J. M.; Silver, J. D.; Barnsley, R.; Dunn, J.; Evans, K. D. ; Peacock, N. J.
CS Clarendon Lab., Univ. Oxford, Oxford, OX1 3PU, UK
SO Physics Letters A (1988), 126(4), 253-7
CODEN: PYLAAG; ISSN: 0375-9601
DT Journal
LA English
CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB New observations of x-ray spectra from foil-excited heavy ion beams are reported. By observing the target in a direction along the beam axis, an improvement in spectral resolution, $\delta\lambda/\lambda$, by a factor of .apprx.2 was achieved, due to the reduced Doppler broadening in this geometry.
ST x ray foil excited ion beam
IT X-ray spectrometry
(of foil-excited heavy ion beams)
IT Ion beams
(x-ray spectra from foil-excited)
IT 14700-85-7, properties
RL: PRP (Properties)
(x-ray spectra from carbon foil-excited beams of)
IT 14041-57-7, properties
RL: PRP (Properties)
(x-ray spectra from foil-excited beams of)
IT 14762-75-5, properties
RL: PRP (Properties)
(x-ray spectra from silicon octacation beams excited by foil of)
IT 14280-14-9, Silicon(9+), properties 16941-71-2, Silicon(11+), properties

16998-71-3, Silicon(12+), properties   26603-58-7, Silicon(10+), properties
RL: PRP (Properties)
(x-ray spectra of, from carbon foil-excited silicon octacation beams)
IT 15721-59-2, Neon(9+), properties
RL: PRP (Properties)
(x-ray spectra of, from foil-excited neon hexacation beams)

L3 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:45382 CAPLUS
DN 108:45382
OREF 108:7449a,7452a
ED Entered STN: 06 Feb 1988
TI Density limit and impurity transport investigations in DITE tokamak
AU Allen, J.; Austin, G. E.; Axon, K. B.; Barnsley, R.; Dunstan, M.; Edwards, D. N.; Evans, K. D.; Fielding, S. J.; Goodall, D. H. J.; et al.
CS Culham Lab., Euratom-EKAEA Fusion Assoc., Abingdon/Oxfordshire, UK
SO Plasma Physics and Controlled Nuclear Fusion Research (1987), Volume Date 1986, 11th(1), 227-35
CODEN: PPCRDU; ISSN: 0589-1469
DT Journal
LA English
CC 71-2 (Nuclear Technology)
AB The processes leading to disruption with increasing d. were studied. The discharge remains in thermal equilibrium but there is a slow profile contraction as the d. is raised because of a deterioration in edge confinement relative to the center. This is only partly explained by radiation losses. The central confinement time of impurities injected by laser ablation was measured. At high d. in ohmically heated discharges, it can be varied by more than a factor of 5 by changing the gas feed rate. The largest values occur for refuelling by recycling only. Substantial differences also occur with co- and counter-neutral beam injection, which are not sensitive to the gas feed rate in this case. These differences cannot be mainly ascribed to plasma rotation because they are not removed by switching on the bundle divertor, which reduces the rotation speed by an order of magnitude. An accumulation of intrinsic impurities is observed in discharges with long impurity confinement times. The effects described are much reduced or absent at low d.
ST tokamak plasma density impurity transport
IT Nuclear fusion reactor fuels and plasmas
(d. limit and impurity transport in tokamak)

L3 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1986:522458 CAPLUS
DN 105:122458
OREF 105:19679a,19682a
ED Entered STN: 03 Oct 1986
TI Bragg rotor spectrometer for tokamak diagnostics
AU Barnsley, R.; Evans, K. D.; Peacock, N. J.; Hawkes, N. C.
CS Euratom Fusion Assoc., UKAEA, Abingdon/Oxon., OX14 3DB, UK
SO Review of Scientific Instruments (1986), 57(8, Pt. 2), 2159-61
CODEN: RSINAK; ISSN: 0034-6748
DT Journal
LA English
CC 71-2 (Nuclear Technology)
Section cross-reference(s): 73
AB A high-throughput broadband (1-24-Å) x-ray spectrometer was demonstrated on the divertor injection tokamak experiment (DITE) tokamak. A hexagonal rotor supporting 6 diffractors may be driven in several modes, ranging from a full spectral survey at .apprx.10 Hz to a stationary, monochromator mode. Wavelength resolution, 500 .ltorsim. $\lambda/\Delta\lambda$ .ltorsim. 1000, is governed by gridded or slotted

collimators. A multiwire gas proportional counter provides a measure of energy discrimination, which together with the large instrument aperture, gives sufficient sensitivity and signal/noise ratio to allow measurement of the continuum radiation from the tokamak. The instrument has a self-contained vacuum system which allows full spatial scans of the DITE plasma. Data acquisition and drive mechanisms for the rotor and filter selection, are controlled remotely from a computer. Results are presented of fast spectral surveys and time evolution of impurity emission during impurity injection.

ST x ray spectrometer tokamak plasma; fusion plasma spectrometer

IT X-ray spectra
(of tokamak plasma)

IT Nuclear fusion reactors
(tokamak, fuels and plasmas, x-ray spectrometer for diagnostics of DITE, Bragg rotor)

IT Spectrometers
(x-ray, for tokamak plasma diagnostics)

IT 14158-22-6, properties 14274-89-6, properties 16998-70-2, properties 16998-99-5, properties 18639-35-5, properties
RL: PRP (Properties)
(x-ray line of, in spectra of tokamak plasma)

L3 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1980:540716 CAPLUS
DN 93:140716
OREF 93:22259a,22262a
ED Entered STN: 12 May 1984
TI The Bragg reflection integral for potassium acid phthalate
AU Lewis, M.; Maksym, P. A.; Evans, K. D.
CS Phys. Dep., Univ. Leicester, Leicester, LE1 7RH, UK
SO Astronomy and Astrophysics (1980), 87(1-2), 213-23
CODEN: AAEJAF; ISSN: 0004-6361
DT Journal
LA English
CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)

AB X-ray spectrometry at wavelengths longer than about λ 10 has long since depended on the use of K acid phthalate (KAP)(001) as a Bragg-mode analyzer. For the case of the solar atmospheric, rather good quality spectra have been recorded for several years by this method. Their quant. calibration has, however, been somewhat troublesome because of difficulties in determining the (wavelength) efficiency function of the analyzers. Reliable methods for both measurement and calcn. of this function have recently been developed. The results are presented of an extensive study of KAP by these methods and comments upon the use of these determined characteristics for the interpretation of spectra.

ST Bragg reflection integral potassium phthalate; x ray spectrometry Bragg analyzer; sun x ray Bragg analyzer

IT X-ray spectrometry
(Bragg reflection integral for potassium acid phthalate mode analyzer in)

IT Sun
(x-ray spectrometry of, Bragg reflection integral for potassium acid phthalate mode analyzer in)

IT 877-24-7
RL: PRP (Properties)
(Bragg reflection integral for)

L3 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1979:79023 CAPLUS
DN 90:79023
OREF 90:12393a,12396a

```
ED   Entered STN:  12 May 1984
TI   X-ray image of the Cygnus Loop
AU   Rappaport, S.; Petre, R.; Kayat, M. A.; Evans, K. D.; Smith, G.
     C.; Levine, A.
CS   Phys. Dep., Massachusetts Inst. Technol., Cambridge, MA, USA
SO   Astrophysical Journal (1979), 227(1, Pt. 1), 285-90
     CODEN: ASJOAB; ISSN: 0004-637X
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance,
     and Other Optical Properties)
AB   An x-ray picture of the Cygnus Loop, recorded with an imaging x-ray
     telescope, is presented.  The results are highly suggestive of a
     limb-brightened shell of hot gas which results from the expansion of a
     blast wave into the interstellar medium.  Spatial structure is clearly
     evident on scale sizes down to .apprx.1/4°, a likely indication of
     the inhomogeneities in the interstellar medium.  No evidence is found for
     any discrete x-ray-emitting remnant of the original supernova explosion.
ST   x ray image Cygnus Loop
IT   X-ray
        (imaging, of Cygnus Loop supernova)
IT   Stars
        (supernova, as x-ray source)

L3   ANSWER 21 OF 27  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   1977:509213  CAPLUS
DN   87:109213
OREF 87:17247a,17250a
ED   Entered STN:  12 May 1984
TI   The calibration of Bragg x-ray analyzer crystals for use as polarimeters
     in x-ray astronomy
AU   Evans, K. D.; Hall, R.; Lewis, M.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Space Science Instrumentation (1977), 3(2), 163-9
     CODEN: SSINDY; ISSN: 0377-7936
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance,
     and Other Optical Properties)
AB   The characteristics are discussed of x-ray analyzer crystals used in the
     Bragg mode as polarimeters.  A calibration technique is described and
     typical results are presented for the case of pentaerythritol.
ST   polarimeter x ray astronomy; Bragg x ray analyzer; pentaerythritol x ray
     astronomy
IT   X-ray
        (astronomy of, polarimeters in, calibration of Bragg x-ray analyzer
        crystals for)
IT   Polarimeters
        (in x-ray astronomy, calibration of Bragg x-ray analyzer crystals for)
IT   Astrophysics
        (x-ray astronomy, polarimeters in, calibration of Bragg x-ray analyzer
        crystals for)
IT   115-77-5, uses and miscellaneous
     RL: USES (Uses)
        (in x-ray astronomy)

L3   ANSWER 22 OF 27  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   1977:197674  CAPLUS
DN   86:197674
OREF 86:30921a,30924a
ED   Entered STN:  12 May 1984
TI   The spectrum of nickel(Ni XIX) in the solar corona
```

AU   Hutcheon, R. J.; Pye, J. P.; Evans, K. D.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Solar Physics (1976), 46(1), 171-7
     CODEN: SLPHAX; ISSN: 0038-0938
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB   The wavelengths and intensities of the stronger transitions in the spectrum of Ni XIX are reduced from measurements of the x-ray spectra of 3 coronal active regions. The new measured wavelengths are consistent with prediction by isoelectronic extrapolation from the wavelengths of well established transitions but are .apprx.0.01 Å longer than previously accepted laboratory measurements. This difference appears to be crucial to the correct assignment of features in the coronal spectrum to Ni XIX. The relative intensities of the new assignments to Ni XIX are in broad agreement with the M. Loulergue-H. Nussbaumer (1975) calcns.
ST   nickel 18 sun spectra
IT   Sun
        (corona, x-ray spectrum of nickel ion in)
IT   15721-59-2, properties   37366-92-0, properties   37367-12-7, properties
     RL: PRP (Properties)
        (spectral lines of, in x-ray spectrum of solar corona)

L3   ANSWER 23 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1977:24326 CAPLUS
DN   86:24326
OREF 86:3817a,3820a
ED   Entered STN: 12 May 1984
TI   The wavelength calibration and resolution of the Leicester solar coronal Bragg spectrometer
AU   Evans, K. D.; Hutcheon, R. J.; Pye, J. P.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Space Science Instrumentation (1976), 2(1-2-3), 339-48
     CODEN: SSINDY; ISSN: 0377-7936
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB   X-ray emission spectra of coronal active regions were studied for several years by use of Skylark rocket vehicles equipped with the Leicester Bragg spectrometer. Many new emission lines were used for diagnosis of the condition of the coronal plasma and for determination of ionic term diagrams.
The
     behavior, during operation in space, of the wavelength calibrations and resolution of the instrument are discussed. The wavelength scale is estimated
to
     a precision of 1 part in 104.
ST   solar coronal Bragg spectrometer; x ray solar corona
IT   Sun
        (corona, x-ray emission spectrum of)
IT   Spectrometers
        (x-ray, wavelength calibration and resolution of, for solar coronal use)
IT   14158-22-6, properties   14274-89-6, properties   14782-26-4, properties
     16998-99-5, properties
     RL: PRP (Properties)
        (spectral lines of, in x-ray emission spectrum of solar corona)

L3   ANSWER 24 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1977:24325 CAPLUS
DN   86:24325
OREF 86:3817a,3820a

ED   Entered STN: 12 May 1984
TI   Calibration data for the Ariel 5 Bragg spectrometer
AU   Evans, K. D.; Hall, R.; Lewis, M.; Underwood, D.; Cooke, B. A.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Space Science Instrumentation (1976), 2(1-2-3), 313-23
     CODEN: SSINDY; ISSN: 0377-7936
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
     Section cross-reference(s): 71
AB   Instrument calibrations were established for the Ariel 5 Bragg spectrometers used for astronomical studies. Salient features of the instrument design are given. The wavelength-dependent detector quantum efficiencies may trivially be calculated from these features by using well-established mass absorption coeffs. The efficiency was calculated of the graphite and LiF Bragg analyzer crystals.
ST   Bragg spectrometer calibration data; x ray astronomy Bragg spectrometer; graphite Bragg analyzer crystal; lithium fluoride Bragg analyzer crystal
IT   Space, interstellar
        (Bragg spectrometer for x-ray studies of)
IT   Spectrometers
        (x-ray, for ariel 5 x-ray astronomy spacecraft, calibration data for)
IT   7782-42-5, uses and miscellaneous   7789-24-4, uses and miscellaneous
     RL: USES (Uses)
        (Bragg analyzer crystals, for ariel 5 x-ray astronomy spacecraft)

L3   ANSWER 25 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1977:24324 CAPLUS
DN   86:24324
OREF 86:3817a,3820a
ED   Entered STN: 12 May 1984
TI   The absolute calibration of the reflection integral of Bragg x-ray analyzer crystals-single reflection methods
AU   Evans, K. D.; Leigh, B.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Space Science Instrumentation (1976), 2(1-2-3), 105-23
     CODEN: SSINDY; ISSN: 0377-7936
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB   Conditions relevant to the astronomical use of Bragg spectrometers for absolute flux measurements are examined The universal application, for unpolarized radiation, of the reflection integral as the prime calibration of the crystal efficiency is established irresp. of beam spread or, within certain limits, bandwidth. Several methods of calibration of the reflection integral are given, and typical results are discussed. Comment is made on the practical difficulty incurred in operation of each method and upon the estimated uncertainty in the results.
ST   reflection integral Bragg spectrometer; x ray Bragg analyzer
IT   Astrophysics
        (Bragg spectrometers for absolute flux measurements in)
IT   Spectrometers
        (x-ray, astronomical use and calibration of)

L3   ANSWER 26 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1976:551634 CAPLUS
DN   85:151634
OREF 85:24215a,24218a
ED   Entered STN: 12 May 1984
TI   Weak iron(Fe XVII) transitions in the coronal x-ray spectrum

AU   Hutcheon, R. J.; Pye, J. P.; Evans, K. D.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Astronomy and Astrophysics (1976), 51(3), 451-60
     CODEN: AAEJAF; ISSN: 0004-6361
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB   Wavelengths and relative intensities are calculated for previously unknown higher members of all Rydberg series of Fe XVII known to be significantly radiated by coronal active regions. High resolution coronal active region x-ray spectrum measurements are anal. to find these transitions. New measured wavelengths and intensities are given. A new value of the Fe XVII ionization potential is given. The work is compared with that of others and a critical examination of the risk of erroneous identification in the work is included.
ST   corona iron transition x ray
IT   Sun
        (corona, iron transitions in x-ray spectrum of)
IT   Ionization potential and energy
        (of iron XVII)
IT   37366-92-0, properties
     RL: PRP (Properties)
        (spectral lines of, in x-ray spectrum of solar corona)

L3   ANSWER 27 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   1976:470561 CAPLUS
DN   85:70561
OREF 85:11267a,11270a
ED   Entered STN: 12 May 1984
TI   The spectrum of iron(Fe XVII) in the solar corona
AU   Hutcheon, R. J.; Pye, J. P.; Evans, K. D.
CS   Phys. Dep., Univ. Leicester, Leicester, UK
SO   Monthly Notices of the Royal Astronomical Society (1976), 175(3), 489-99
     CODEN: MNRAA4; ISSN: 0035-8711
DT   Journal
LA   English
CC   73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB   The wavelengths and intensities of $n = 3 \rightarrow 2$ and $n = 4 \rightarrow 2$ transitions in Fe XVII were obtained from measurements of the x-ray spectra of 3 coronal active regions. The observations were made using Bragg x-ray spectrometers operated on 2 on 2 Skylark rocket vehicles. New wavelength measurements are given with an uncertainty of ±0·003 Å. Relative intensities were compared with the calculated values of M. Loulergue and H. Nussbaumer (1973, 1975). Agreement is generally good except for some of the 2p6-2p53s lines. A feature near 11·0 Å in the measured spectra in tentatively identified with a blend of 2 previously unknown inner shell transitions.
ST   iron x ray sun corona
IT   Sun
        (corona, x-ray wavelengths and intensities of iron ion lines from)
IT   37366-92-0, properties
     RL: PRP (Properties)
        (spectral lines of, in x-ray spectra of solor corona)

=> d 13 1 all

L3   ANSWER 1 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
AN   2008:418572 CAPLUS

```
ED   Entered STN:  03 Apr 2008
TI   Underground trampoline ring design
IN   Burnham, Tracy; Evans, K. Donald; Muller, Mark; Leopold, Jerry;
     Cook, Cory E.
PA   USA
SO   U.S. Pat. Appl. Publ.
     CODEN: USXXCO
DT   Patent
LA   English
INCL 482029000; 052741130
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   US 20080081739       A1    20080403    US 2007-857595         20070919
PRAI US 2007-857595             20070919
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ------------------------------------------------
 US 20080081739  INCL   482029000; 052741130
                 IPCI   A63B0005-11 [I,A]; A63B0005-00 [I,C*]; E04B0001-28
                        [I,A]
                 NCL    482/029.000; 052/741.130
AB   An in-ground trampoline system configured to provide a ground level
     jumping surface which consists of a trampoline, a pit, and a segmented
     retaining wall configured to support the walls of the pit.


=> file reg
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                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   219.21     219.42

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -47.20     -47.20

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DICTIONARY FILE UPDATES:   6 NOV 2008  HIGHEST RN 1071288-19-1

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  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

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predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> e potassium silicate/cn
```

```
E1            1     POTASSIUM SESQUICARBONATE/CN
E2            1     POTASSIUM SILANIDE (KSIH3)/CN
E3            1 --> POTASSIUM SILICATE/CN
E4            1     POTASSIUM SILICATE (K10SI6O17))/CN
E5            1     POTASSIUM SILICATE (K18SI16O41)/CN
E6            1     POTASSIUM SILICATE (K2SI2O5)/CN
E7            1     POTASSIUM SILICATE (K2SI3O7)/CN
E8            1     POTASSIUM SILICATE (K2SI4O9)/CN
E9            1     POTASSIUM SILICATE (K2SI4O9), MONOHYDRATE/CN
E10           1     POTASSIUM SILICATE (K2SI9O19)/CN
E11           1     POTASSIUM SILICATE (K2SIO3)/CN
E12           1     POTASSIUM SILICATE (K4SI5O12)/CN

=> s e3;d
L4            1 "POTASSIUM SILICATE"/CN



L4   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2008 ACS on STN
RN   1312-76-1  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Silicic acid, potassium salt  (CA INDEX NAME)
OTHER NAMES:
CN   1K
CN   1K (salt)
CN   2K
CN   2K (salt)
CN   Betolin EP 219
CN   Betolin K 28
CN   Betolin P 35
CN   Crystal K 120
CN   Crystal K 78
CN   Inobond K 4009
CN   K 120
CN   K 4/2
CN   K 4009
CN   K 53
CN   K 53 (silicate)
CN   K 78
CN   Kasil
CN   Kasil 1
CN   Kasil 1552
CN   Kasil 2130
CN   Kasil 2135
CN   Kasil 2236
CN   Kasil 2529
CN   Kasil 33
CN   Kasil 6
CN   Kasil 88
CN   Kasil SS
CN   Kasolv 16
CN   Kasolv SS
CN   MAX 3
CN   Ohkaseal A
CN   OK 55
CN   Potassium polysilicate
CN   Potassium silicate
CN   Potassium Silicate 1K
CN   Potassium Silicate 2K
CN   Potassium Silicate A
CN   Potassium Silicate OK 55
CN   Potassium water glass
```

```
CN   PS 7
CN   PS 7 (silicate)
CN   Pyramid 120
CN   Pyramid K 66
CN   SEK
CN   Silchem K 1420
CN   Soluble potash glass
CN   Soluble potash water glass
CN   Trolit AOS
DR   12698-85-0, 11116-04-4
MF   Unspecified
CI   COM, MAN
LC   STN Files:   AGRICOLA, BIOSIS, CA, CAPLUS, CASREACT, CBNB, CHEMCATS,
       CHEMLIST, CIN, CSCHEM, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,
       ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, MRCK*, MSDS-OHS, PIRA, PROMT,
       TOXCENTER, TULSA, USPAT2, USPATFULL, USPATOLD
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

            4329 REFERENCES IN FILE CA (1907 TO DATE)
              45 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            4336 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> e sodium perborate monohydrate/cn
E1            1     SODIUM PERBORATE (NAH2BO4)/CN
E2            1     SODIUM PERBORATE DECAHYDRATE/CN
E3            1 --> SODIUM PERBORATE MONOHYDRATE/CN
E4            1     SODIUM PERBORATE TETRAHYDRATE/CN
E5            1     SODIUM PERBORATE TRIHYDRATE/CN
E6            1     SODIUM PERBORATE, NABO4/CN
E7            1     SODIUM PERBROMATE/CN
E8            1     SODIUM PERBROMATE (BRNAO4)/CN
E9            1     SODIUM PERBROMATE MONOHYDRATE/CN
E10           3     SODIUM PERCARBONATE/CN
E11           1     SODIUM PERCARBONATE (NA2C2O6)/CN
E12           1     SODIUM PERCARBONATE (NA2CO3.1.5H2O2)/CN

=> s e3;d
L5            1 "SODIUM PERBORATE MONOHYDRATE"/CN



L5   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2008 ACS on STN
RN   10332-33-9  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Perboric acid (HBO(O2)), sodium salt, monohydrate (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Perboric acid (HBO3), sodium salt, monohydrate (8CI)
OTHER NAMES:
CN   Interox A
CN   Perasafe
CN   Sodium borate (NaBO3), monohydrate
CN   Sodium perborate monohydrate
DR   17035-66-4
MF   B H O3 . H2 O . Na
CI   COM
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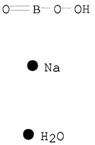
LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS, PROMT, RTECS*, TOXCENTER, ULIDAT, USPAT2, USPATFULL, USPATOLD
(*File contains numerically searchable property data)
CRN (14034-78-7)



464 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
464 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus

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FULL ESTIMATED COST	16.60	236.02

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CA SUBSCRIBER PRICE	0.00	-47.20

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FILE LAST UPDATED: 6 Nov 2008 (20081106/ED)

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=> s (1312-76-1 or potassium silicate#) and (10332-33-9 or sodium perborate
monohydrate)
   REG1stRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L7          464 L6

   REG1stRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L9         4336 L8

         698593 POTASSIUM
         242472 SILICATE#
           5291 POTASSIUM SILICATE#
                  (POTASSIUM(W)SILICATE#)
        1233025 SODIUM
           5785 PERBORATE
          30149 MONOHYDRATE
            438 SODIUM PERBORATE MONOHYDRATE
                  (SODIUM(W)PERBORATE(W)MONOHYDRATE)
L10           3 ( L9 OR POTASSIUM SILICATE#) AND ( L7 OR SODIUM PERBORATE MONOHY
                DRATE)

=> d 1-3 all

L10  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2007:1120593  CAPLUS
DN   147:429231
ED   Entered STN:  05 Oct 2007
TI   Multiuse, solid cleaning device and composition
IN   Evans, K. Donald; Cook, Cory E.
PA   Eco-Safe Technologies, L.L.C., USA
SO   U.S. Pat. Appl. Publ., 38pp., Cont.-in-part of U.S. Ser. No. 597,837/
     CODEN: USXXCO
DT   Patent
LA   English
INCL 510445000
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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PI   US 20070232517       A1    20071004    US 2006-535896         20060927
     US 20040162227       A1    20040819    US 2004-775264         20040210
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     US 7053040           B2     20060530
     US 20050130868       A1     20050616   US 2004-925331        20040824
     WO 2005077064        A2     20050825   WO 2005-US4133        20050210
     WO 2005077064        A3     20061005
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
     US 20070184998       A1     20070809   US 2006-597837        20060809
PRAI US 2004-775264       A2     20040210
     US 2004-925331       A2     20040824
     WO 2005-US4133       W      20050210
     US 2006-597837       A2     20060809
     US 1999-437532       A3     19991110
     US 2002-144331       A2     20020513
     US 2003-448239P      P      20030218
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 20070232517  INCL   510445000
                 IPCI   C11D0017-00 [I,A]
                 IPCR   C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04
                        [I,C*]; C11D0017-04 [I,A]
                 NCL    510/445.000
                 ECLA   C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;
                        C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
 US 20040162227  IPCI   C11D0003-08 [I,A]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
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                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 NCL    510/276.000; 510/445.000; 510/455.000; 510/511.000;
                        510/446.000; 510/507.000; 510/509.000; 510/531.000
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 US 20050130868  IPCI   C11D0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 NCL    510/459.000
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 WO 2005077064   IPCI   C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00
                        [I,A]; C11D0017-06 [I,A]
                 IPCR   C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04
                        [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C];
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                 C11D0017-06 [I,A]
           ECLA  C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;
                 C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
 US 20070184998  IPCI  C11D0003-395 [I,A]
           NCL   510/302.000
AB   A multiuse cleaning device in a solid state containing a homogeneous quantity
     of cleaning agent configured to dissolve and release a substantially
     consistent quantity of cleaning agent over a plurality of wash and rinse
     cycles.  The cleaning agent includes a gas-releasing component and
     potassium silicate as a solubility control component to limit
     the solubility of the cleaning agent.  The cleaning agent may include other
     ingredients such as an alkalinity agent as a pH regulator, a water softener to
     solvate metal ions in a solution of water, an optical brightener, an
     anti-redeposition agent, fragrances, surfactants, and other ingredients.
     Controlled dissoln. of the cleaning agent composition releases a desired
     quantity of cleaning agent in each cleaning cycle over a plurality of
     cycles.  A porous enclosure may be disposed around the solid cleaning
     agent.
ST   solid cleaning device compn; potassium silicate
     zeolite cleaning device
IT   Carbonates, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (alkali metal; multiuse, solid laundry cleaning device and composition)
IT   Alkali metal compounds
     RL: TEM (Technical or engineered material use); USES (Uses)
        (carbonates; multiuse, solid laundry cleaning device and composition)
IT   Detergents
        (cleaning compns.; multiuse, solid laundry cleaning device and composition)
IT   Detergents
        (laundry, solid device, multiuse; multiuse, solid laundry cleaning
        device and composition)
IT   Fluorescent brighteners
     Perfumes
     Surfactants
        (multiuse, solid laundry cleaning device and composition)
IT   Alkali metal hydrides
     Alkali metal hydroxides
     Alkali metal oxides
     Synthetic rubber, uses
     Zeolites (synthetic), uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (multiuse, solid laundry cleaning device and composition)
IT   497-19-8, Sodium carbonate, uses   994-36-5, Sodium citrate   1303-96-4,
     Borax   1310-73-2, Sodium hydroxide, uses 1312-76-1,
     Potassium silicate   3313-92-6, Sodium percarbonate
     9000-11-7, Carboxymethyl cellulose 10332-33-9, Sodium
     perborate monohydrate
     RL: TEM (Technical or engineered material use); USES (Uses)
        (multiuse, solid laundry cleaning device and composition)

L10  ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2005:527371  CAPLUS
DN   143:45326
ED   Entered STN:  19 Jun 2005
TI   Multiuse, solid cleaning device and composition
IN   Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie
PA   USA
SO   U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C11D001-00
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INCL 510459000
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE       APPLICATION NO.      DATE
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PI   US 20050130868       A1    20050616   US 2004-925331         20040824
     US 6403551           B1    20020611   US 1999-437532         19991110
     US 20020132752       A1    20020919   US 2002-144331         20020513
     US 6689276           B2    20040210
     US 20040162227       A1    20040819   US 2004-775264         20040210
     US 7053040           B2    20060530
     AU 2005211747        A1    20050825   AU 2005-211747         20050210
     CA 2554448           A1    20050825   CA 2005-2554448        20050210
     WO 2005077064        A2    20050825   WO 2005-US4133         20050210
     WO 2005077064        A3    20061005
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
     EP 1725648           A2    20061129   EP 2005-713227         20050210
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA,
             HR, LV, MK, YU
     CN 1918276           A     20070221   CN 2005-80004598       20050210
     BR 2005007493        A     20070710   BR 2005-7493           20050210
     JP 2007522326        T     20070809   JP 2006-553208         20050210
     KR 2007009560        A     20070118   KR 2006-715949         20060807
     MX 2006PA08945       A     20070126   MX 2006-PA8945         20060807
     US 20070184998       A1    20070809   US 2006-597837         20060809
     US 20070232517       A1    20071004   US 2006-535896         20060927
PRAI US 1999-437532       A3    19991110
     US 2002-144331       A2    20020513
     US 2003-448239P      P     20030218
     US 2004-775264       A2    20040210
     US 2004-925331       A     20040824
     WO 2005-US4133       W     20050210
     US 2006-597837       A2    20060809
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 20050130868  ICM    C11D001-00
                 INCL   510459000
                 IPCI   C11D0001-00 [ICM,7]
                 IPCR   B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04
                        [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];
                        C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02
                        [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];
                        C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12
                        [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];
                        C11D0011-00 [I,A]
                 NCL    510/459.000
                 ECLA   B01F001/00F2; B01F005/04C18; C11D003/00B10;
                        C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;
                        C11D011/00F
 US 6403551      IPCI   C11D0013-00 [ICM,7]
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	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;

C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08 [I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A]; C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39 [I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C]; C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
	FTERM	3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to be disposed within a laundry cleaning machine tub and to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of laundry wash and rinse cycles. The cleaning agent includes a gas-releasing component, potassium silicate as a solubility control component to limit the solubility of the cleaning agent, an alkalinity agent as a pH regulator, and a water softener to solvate metal ions in a solution of water. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous covering or bag may be disposed around the solid cleaning agent. Thus, a multiuse laundry cleaning device comprises 42% to 52% by weight sodium perborate monohydrate as the gas-releasing component, 35% to 45% by weight potassium silicate as the solubility control component, 1% to 5% by weight zeolite as the water softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to 3% by weight of a optical brightener, 1 to 5% by weight of a fragrance component; and 0.5 to 3% by weight of an anti-redeposition

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     component.
ST   sodium perborate monohydrate
     potassium silicate zeolite cleaning device; solid
     cleaning compn sodium hydroxide
IT   Detergents
        (laundry, solid; multiuse, solid cleaning device and composition)
IT   Zeolite-group minerals
     Zeolites (synthetic), uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (water softener; multiuse, solid cleaning device and composition)
IT   1310-73-2, Sodium hydroxide, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (alkalinity agent; multiuse, solid cleaning device and composition)
IT   144-55-8, Sodium bicarbonate, uses   497-19-8, Sodium carbonate, uses
     10332-33-9, Sodium perborate
     monohydrate   15630-89-4, Sodium percarbonate
     RL: TEM (Technical or engineered material use); USES (Uses)
        (gas-releasing component; multiuse, solid cleaning device and composition)
IT   1312-76-1, Potassium silicate
     RL: TEM (Technical or engineered material use); USES (Uses)
        (solubility control component; multiuse, solid cleaning device and
composition)

L10  ANSWER 3 OF 3  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2001:916401  CAPLUS
DN   136:39182
ED   Entered STN:  20 Dec 2001
TI   Phosphate-free automatic dishwashing detergent
IN   Foote, Michael R.; Brumbaugh, Ernie
PA   Amway Corporation, USA
SO   U.S., 4 pp.
     CODEN: USXXAM
DT   Patent
LA   English
IC   ICM  C11D003-00
     ICS  C11D003-22; C11D003-08; C11D003-39
INCL 510226000
CC   46-6 (Surface Active Agents and Detergents)
     Section cross-reference(s): 7
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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PI   US 6331512           B1    20011218   US 2000-603135         20000623
PRAI US 1999-157345P      P     19990929
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 6331512      ICM    C11D003-00
                 ICS    C11D003-22; C11D003-08; C11D003-39
                 INCL   510226000
                 IPCI   C11D0003-00 [ICM,7]; C11D0003-22 [ICS,7]; C11D0003-08
                        [ICS,7]; C11D0003-39 [ICS,7]
                 IPCR   C11D0001-66 [N,C*]; C11D0001-66 [N,A]; C11D0003-08
                        [I,C*]; C11D0003-08 [I,A]; C11D0003-37 [I,C*];
                        C11D0003-37 [I,A]; C11D0003-38 [I,C*]; C11D0003-386
                        [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]
                 NCL    510/226.000; 510/230.000; 510/374.000; 510/378.000
                 ECLA   C11D003/08; C11D003/37C6B; C11D003/386A; C11D003/39D;
                        M11D
AB   A concentrated automatic dishwashing composition comprises (a) .apprx.1-80%
alkali
     metal silicate, (b) .apprx.1-20% nonionic surfactant, (c) .apprx.5-50%
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     oxygen-containing bleaching agent, (d) .apprx.0.5-10% one or more alkaline
stable
     enzyme, and (e) .apprx.5-30% polyacrylate, wherein the composition is free of
     any carbonate, phosphate, and chlorine compds.  A preferred composition is
     composed of sodium silicate 49.09, nonionic surfactant 9.25,
     sodium perborate monohydrate 24.05, alkaline
     stable protease 3.00, and sodium polyacrylate 14.61 weight%.
ST   phosphate free automatic dishwashing detergent; sodium silicate
     dishwashing detergent; nonionic surfactant dishwashing detergent;
     perborate monohydrate sodium dishwashing detergent; protease dishwashing
     detergent; polyacrylate dishwashing detergent
IT   Detergents
        (dishwashing; phosphate-free automatic dishwashing detergent containing
        alkali metal silicate, nonionic detergent, O-containing bleaching agent,
        enzyme and polyacrylate)
IT   Alcohols, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (fatty, ethoxylated; phosphate-free automatic dishwashing detergent
        containing)
IT   Alcohols, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (fatty, propoxylated; phosphate-free automatic dishwashing detergent
        containing)
IT   Surfactants
        (nonionic; phosphate-free automatic dishwashing detergent containing)
IT   Enzymes, uses
     Polyoxyalkylenes, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (phosphate-free automatic dishwashing detergent containing)
IT   1312-76-1, Potassium silicate   1344-09-8,
     Sodium silicate   6834-92-0, Sodium metasilicate   9000-92-4, Amylase
     9001-00-7, Bromelin   9001-12-1, Collagenase   9001-73-4, Papain
     9001-75-6, Pepsin   9001-92-7, Proteinase   9002-07-7, Trypsin
     9003-04-7, Sodium polyacrylate   9003-11-6D, Ethylene oxide-propylene
     oxide copolymer, derivs.   9004-06-2, Elastase   9004-07-3, Chymotrypsin
     9014-01-1, Subtilisin   9025-49-4   9031-55-4, Carboxylase   9031-94-1,
     Amino peptidase   10006-28-7, Potassium metasilicate 10332-33-9,
     Sodium perborate monohydrate   10486-00-7,
     Sodium perborate tetrahydrate   12653-78-0, Potassium perborate
     37341-53-0, Keratinase
     RL: TEM (Technical or engineered material use); USES (Uses)
        (phosphate-free automatic dishwashing detergent containing)
RE.CNT  8     THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
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RE
(1) Ahmed; US 5423997 1995 CAPLUS
(2) Brumbaugh; US 5240632 1993 CAPLUS
(3) Caravajal; US 5703027 1997 CAPLUS
(4) Dixit; US 5468411 1995 CAPLUS
(5) Drapier; US 5173207 1992 CAPLUS
(6) Durbut; US 5169553 1992 CAPLUS
(7) Haeggberg; US 5599781 1997 CAPLUS
(8) Sadlowski; US 5597789 1997
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=> d his

     (FILE 'HOME' ENTERED AT 14:52:16 ON 07 NOV 2008)

     FILE 'CAPLUS' ENTERED AT 14:52:58 ON 07 NOV 2008
                E CARUTHERS ED/AU
                E CARUTHERS E/AU
L1          28 S E3-E8
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              E COOK CORY/AU
L2          3 S E4
              E EVANS K/AU
L3         27 S E10 OR E11

     FILE 'REGISTRY' ENTERED AT 15:01:46 ON 07 NOV 2008
              E POTASSIUM SILICATE/CN
L4          1 S E3
              E SODIUM PERBORATE MONOHYDRATE/CN
L5          1 S E3

     FILE 'CAPLUS' ENTERED AT 15:04:29 ON 07 NOV 2008
              S ( 1312-76-1/REG# OR POTASSIUM SILICATE#) AND ( 10332-33-9/REG

     FILE 'REGISTRY' ENTERED AT 15:05:32 ON 07 NOV 2008
L6          1 S 10332-33-9/RN

     FILE 'CAPLUS' ENTERED AT 15:05:32 ON 07 NOV 2008
L7        464 S L6

     FILE 'REGISTRY' ENTERED AT 15:05:33 ON 07 NOV 2008
L8          1 S 1312-76-1/RN

     FILE 'CAPLUS' ENTERED AT 15:05:33 ON 07 NOV 2008
L9       4336 S L8
L10         3 S ( L9 OR POTASSIUM SILICATE#) AND ( L7 OR SODIUM PERBORATE MON

=> s (1312-76-1 or potassium silicate#) and percarbonate@ and laund###########
   REG1stRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.




L12      4336 L11


       698593 POTASSIUM
       242472 SILICATE#
         5291 POTASSIUM SILICATE#
                (POTASSIUM(W)SILICATE#)
         3524 PERCARBONATE@
                (PERCARBONATE)
        26257 LAUND###########
L13         3 ( L12 OR POTASSIUM SILICATE#) AND PERCARBONATE@ AND LAUND#######
              ####


=> s l13 not l10
L14         1 L13 NOT L10

=> d all

L14  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2004:681376  CAPLUS
DN   141:192284
ED   Entered STN:  20 Aug 2004
TI   Autonomous cleaning composition and making up the cleaning composition
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IN   Caruthers, Eddie L.
PA   Eco-Safe Technologies, L.L.C., USA
SO   U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Pat. Appl. 2002
     132,752.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  D06L001-00
     ICS  C11D017-00
INCL 510276000; X51-044.5; X51-045.5
CC   46-5 (Surface Active Agents and Detergents)
FAN.CNT 5
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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PI   US 20040162227       A1    20040819    US 2004-775264         20040210
     US 7053040           B2    20060530
     US 6403551           B1    20020611    US 1999-437532         19991110
     US 20020132752       A1    20020919    US 2002-144331         20020513
     US 6689276           B2    20040210
     US 20050130868       A1    20050616    US 2004-925331         20040824
     AU 2005211747        A1    20050825    AU 2005-211747         20050210
     CA 2554448           A1    20050825    CA 2005-2554448        20050210
     WO 2005077064        A2    20050825    WO 2005-US4133         20050210
     WO 2005077064        A3    20061005
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         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
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             MR, NE, SN, TD, TG
     EP 1725648           A2    20061129    EP 2005-713227         20050210
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             HR, LV, MK, YU
     CN 1918276           A     20070221    CN 2005-80004598       20050210
     BR 2005007493        A     20070710    BR 2005-7493           20050210
     JP 2007522326        T     20070809    JP 2006-553208         20050210
     KR 2007009560        A     20070118    KR 2006-715949         20060807
     MX 2006PA08945       A     20070126    MX 2006-PA8945         20060807
     US 20070184998       A1    20070809    US 2006-597837         20060809
     US 20070232517       A1    20071004    US 2006-535896         20060927
PRAI US 1999-437532       A3    19991110
     US 2002-144331       A2    20020513
     US 2003-448239P      P     20030218
     US 2004-775264       A2    20040210
     US 2004-925331       A     20040824
     WO 2005-US4133       W     20050210
     US 2006-597837       A2    20060809
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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                 ICS    C11D017-00
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	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
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	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
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                    3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46;
                    3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21;
                    4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05;
                    4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16;
                    4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13;
                    4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
 KR 2007009560   IPCI   B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00
                    [I,A]; C11D0003-00 [I,A]
 MX 2006PA08945  IPCI   B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
 US 20070184998  IPCI   C11D0003-395 [I,A]
                 NCL    510/302.000
 US 20070232517  IPCI   C11D0017-00 [I,A]
                 IPCR   C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04
                    [I,C*]; C11D0017-04 [I,A]
                 NCL    510/445.000
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                    C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
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AB A solid cleaning composition is a long-term, solid cartridge made of cleaning agents and a solubility limiting agent for controlling an equilibrium concentration of the composition in a solvent, such as H2O. In use, the cleaning agents are dissolved only to a predetd. concentration needed for a single dose of a cleaning appliance, such as a clothes washing machine. The solid cleaning composition may be cyclically exposed to H2O. Controlled dissoln. of the cleaning composition releases a desired quantity of cleaning agents in each cleaning

cycle. The use of K silicate as a solubility controlling compound permits manufacture
of the cleaning composition at ambient temps. and pressures. The cleaning composition may be molded or cast into a desirable shape for controlling surface area.

ST carbonate cleaning agent laundry washing

IT Cleaning
(effervescent agents, nondetergent; solid cleaning composition based on)

IT Effervescent materials
Laundering
(solid cleaning composition based on)

IT Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(water softener; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 533-96-0, Sodium sesquicarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(alkalinity agent; solid cleaning composition based on effervescent carbonate or
borate cleaning agent)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(effervescent cleaner; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 1312-76-1, Potassium silicate 3313-92-6,
Sodium percarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(solubility control agent; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Anon; GB 2109398 1983 CAPLUS
(2) Anon; WO 9117232 1991 CAPLUS
(3) Anon; WO 9804672 1998 CAPLUS
(4) Backes; US 5665694 A 1997 CAPLUS
(5) Barford; US 5711920 A 1998 CAPLUS
(6) Bartelme; US 6387864 B1 2002 CAPLUS
(7) Caruthers; US 6178987 B1 2001 CAPLUS
(8) Caruthers; US 6262004 B1 2001 CAPLUS
(9) Caruthers; US 6403551 B1 2002 CAPLUS
(10) Caruthers; US 6689276 B1 2004 CAPLUS
(11) Cook; US 3726304 A 1973
(12) Davies; US 5916866 A 1999 CAPLUS
(13) Denisar; US 5870906 A 1999
(14) Donaghu; US 3640876 A 1972 CAPLUS
(15) Gordon; US 5650017 A 1997 CAPLUS
(16) Grenier; US 5810043 A 1998 CAPLUS
(17) John; US 5316692 A 1994 CAPLUS
(18) Mazzola; US 5443751 A 1995 CAPLUS
(19) Morgenstern; US 3715314 A 1973 CAPLUS
(20) Nelli; US 3772193 A 1973 CAPLUS
(21) Olson; US 6365568 B1 2002 CAPLUS
(22) Partee; US 5962389 A 1999 CAPLUS
(23) Schneider; US 3507624 A 1970
(24) Siragusa; US 5755330 A 1998
(25) Sorensson; US 5338528 A 1994 CAPLUS
(26) Sorensson; US 5344633 A 1994 CAPLUS
(27) Spriggs; US 5873268 A 1999
(28) Urfer; US 5118439 A 1992 CAPLUS
(29) Warwick; US 6063747 A 2000 CAPLUS
(30) Yando; US 5827434 A 1998 CAPLUS
(31) Yurko; US 4397777 A 1983 CAPLUS

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COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    14.83     282.16

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -0.80     -50.40

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